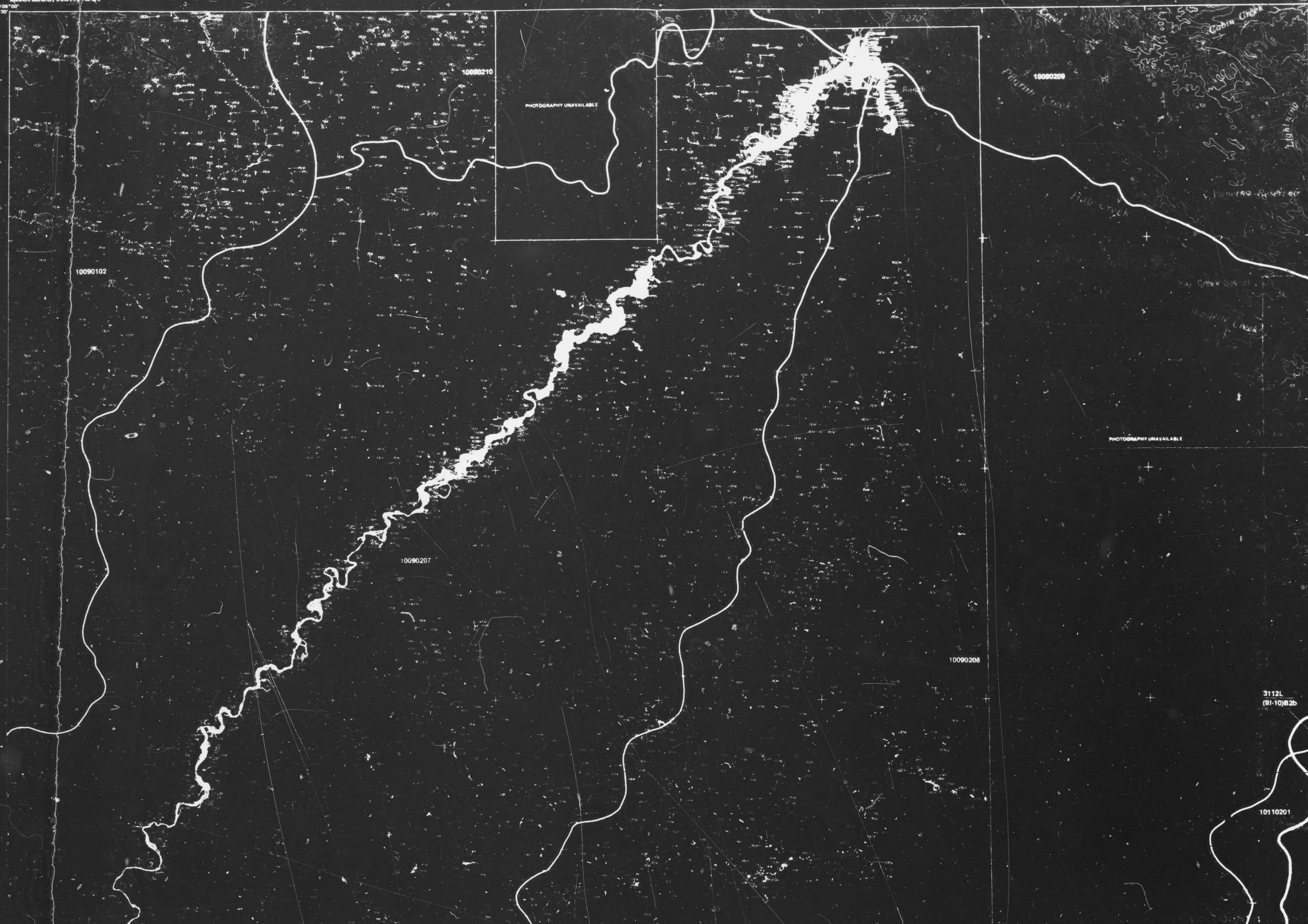
BROADUS, MONTANA

NATIONAL WETLANDS INVENTORY

30 X 60 MINUTE SERIES (WETLANDS)



1:100 000-scale
wetland map of

Broadus
MONTANA

30' X 60' MINUTE QUADRANGLE SHOWING

- Wetland classifications
- Highways, roads and other manmade structures.
- Water features
- Geographic names

1979

Produced by the United States Fish and Wildlife Service
Wetland classifications from 1:31 680-scale color infrared aerial photographs taken 1976 and other source data

MICROFICHE INDEX
BROADUS (EKALAKA SW)

BROADUS, MONTANA
1979

SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND

WETLAND LEGEND

M MARINE
1 SUBTIDAL
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- RF Reef

M MARINE
2 INTERTIDAL
- AB Aquatic Bed
- RF Reef
- FL Flat
- RS Rocky Shore
- BB Beach/Bar

E ESTUARINE
1 SUBTIDAL
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- RF Reef

E ESTUARINE
2 INTERTIDAL
- AB Aquatic Bed
- RF Reef
- FL Flat
- SB Streambed
- RS Rocky Shore
- BB Beach/Bar
- EM Emergent
- SS Scrub/Shrub
- FO Forested

R RIVERINE
1 TIDAL
- EM Emergent (Nonpersistent)
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- SB Streambed
- RS Rocky Shore
- BB Beach/Bar

R RIVERINE
2 LOWER PERENNIAL
- EM Emergent (Nonpersistent)
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- SB Streambed
- RS Rocky Shore
- BB Beach/Bar

R RIVERINE
3 UPPER PERENNIAL
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- SB Streambed
- RS Rocky Shore
- BB Beach/Bar

R RIVERINE
4 INTERMITTENT
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- SB Streambed
- RS Rocky Shore
- BB Beach/Bar

L LACUSTRINE
1 LIMNETIC
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed

L LACUSTRINE
2 LITTORAL
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- RS Rocky Shore
- BB Beach/Bar
- EM Emergent (Nonpersistent)

P PALUSTRINE
NO SUBSYSTEMS
- OW Open Water/Unknown Bottom
- RB Rock Bottom
- UB Unconsolidated Bottom
- AB Aquatic Bed
- FL Flat
- ML Moss/Lichen
- EM Emergent
- SS Scrub/Shrub
- FO Forested

379 444

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

THREEMILE BUTTES QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

PEM PFL PFO PSS POW

CUSTER NATIONAL FOREST

EKALAKA SW
BROADUS

THREEMILE BUTTES, MONT

SPECIAL NOTE

NOTES TO THE USER

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

6-2

WETLAND LEGEND

S – Nearly permanent, upland areas, but may contain [illegible]

M – MARINE

1 – Subtidal

2 – Intertidal

ECOLOGICAL SYSTEM

E – ESTUARINE

1 – Subtidal

2 – Intertidal

ECOLOGICAL SYSTEM

R – RIVERINE

1 – Tidal | 2 – Lower Perennial | 3 – Upper Perennial | 4 – Intermittent | 5 – Unknown Perennial

ECOLOGICAL SYSTEM

L – LACUSTRINE

1 – Limnetic

2 – Littoral

ECOLOGICAL SYSTEM

P – PALUSTRINE

MODIFYING TERMS

In order to more adequately describe wetland and riparian habitats, one of more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The listed modifiers may be applied to any ecological system.

WATER REGIME (1)				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS
Non-tidal		Tidal						

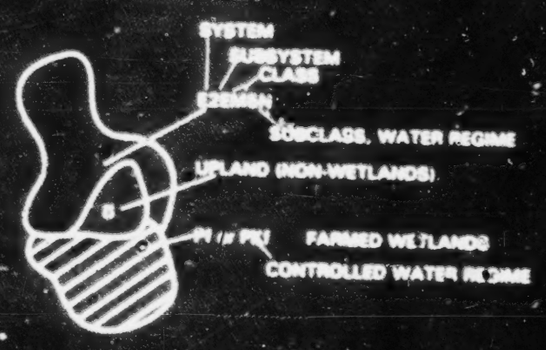
(1) Information on the water regime of wetlands found on this legend, but not found in the classification system, may be obtained from the above listed source.

SPECIAL NOTE

This document was prepared primarily for photointerpretation of large wetland areas and deepwater habitats. Wetlands were identified on the photographic bases on aerial patterns, vegetation, hydrology, and geography in accordance with the classification system of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1977). The aerial photographs primarily utilized were taken during the growing year and therefore reflect conditions during the spring. There is a chance of error inherent in the use of this aerial photography. Thus, a decision on the ground and subsequent analysis of a sample site may result in a modification of the wetland boundary, particularly where it grades into upland. In addition, some small wetlands and those concealed by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or completion of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning potential regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

- Wetlands which have been field examined are indicated on this map by an asterisk (*).
- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information depicted on this map are solicited. Please forward such information to the address indicated.

3 7 9 4 4 5

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES DEPARTMENT OF THE INTERIOR

POW PEM PFL PFO PSS

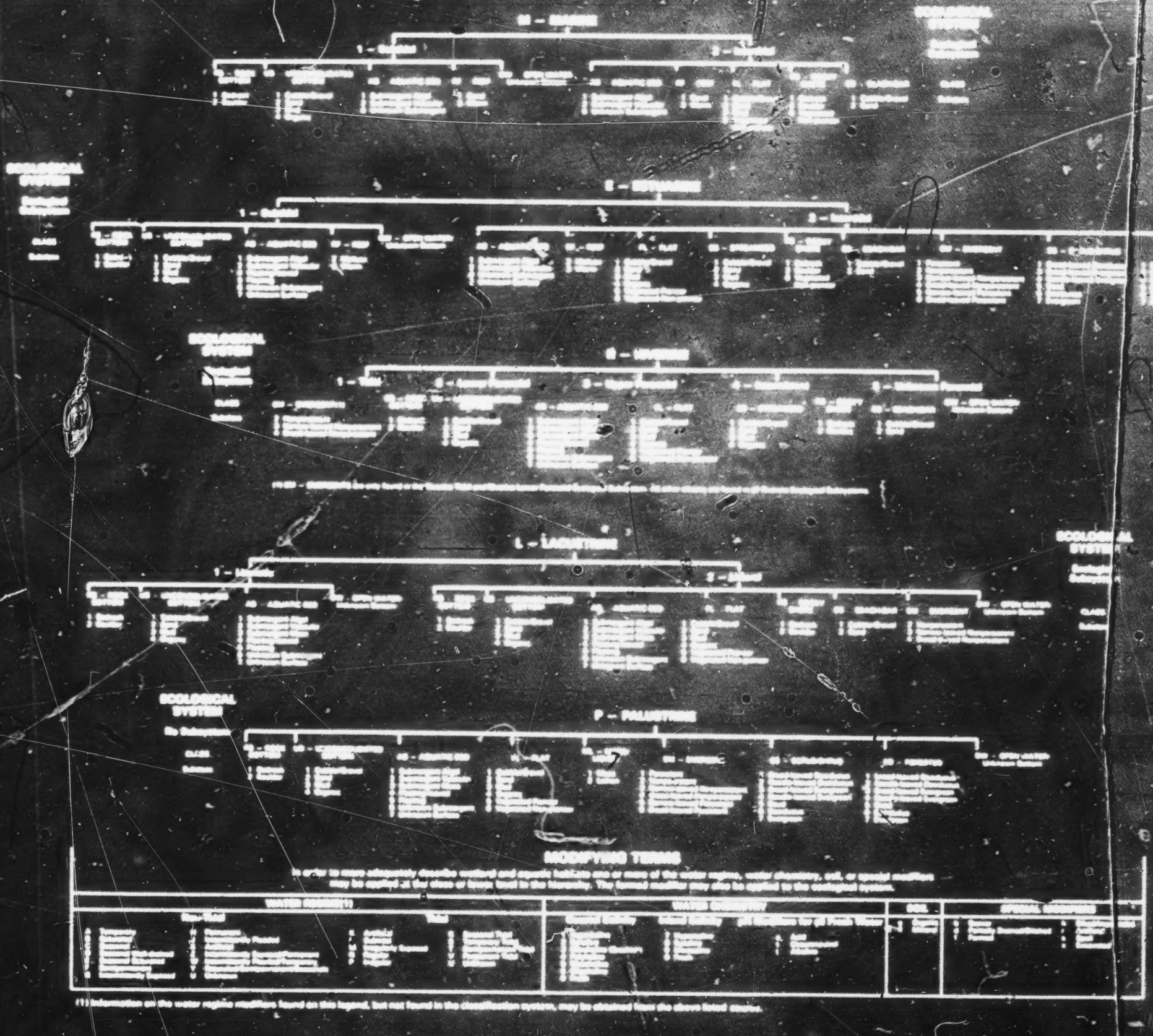
EKALAKA SW
BROADUS

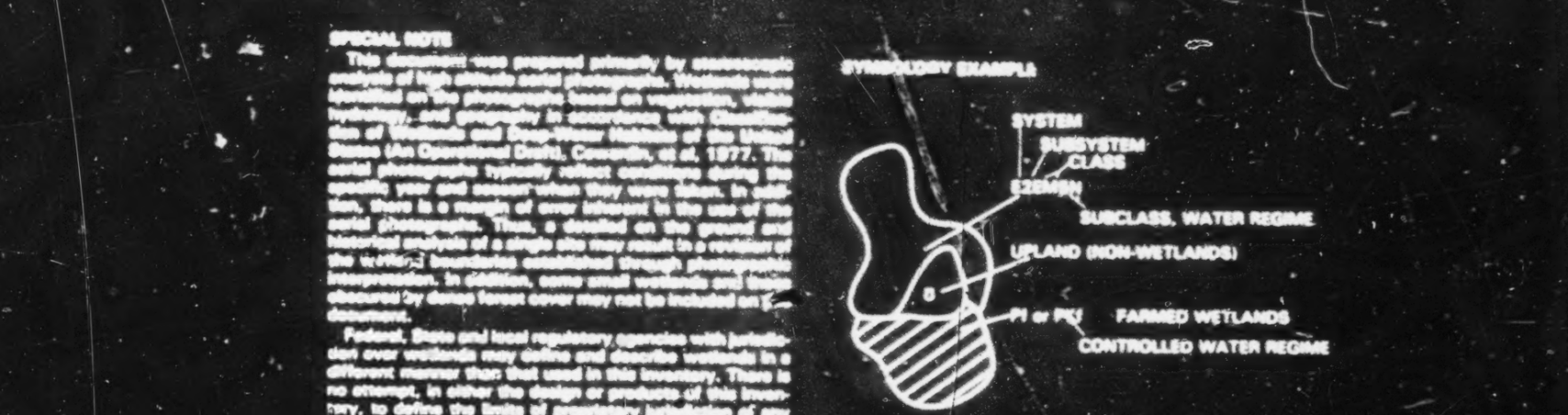
SPECIAL NOTE

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

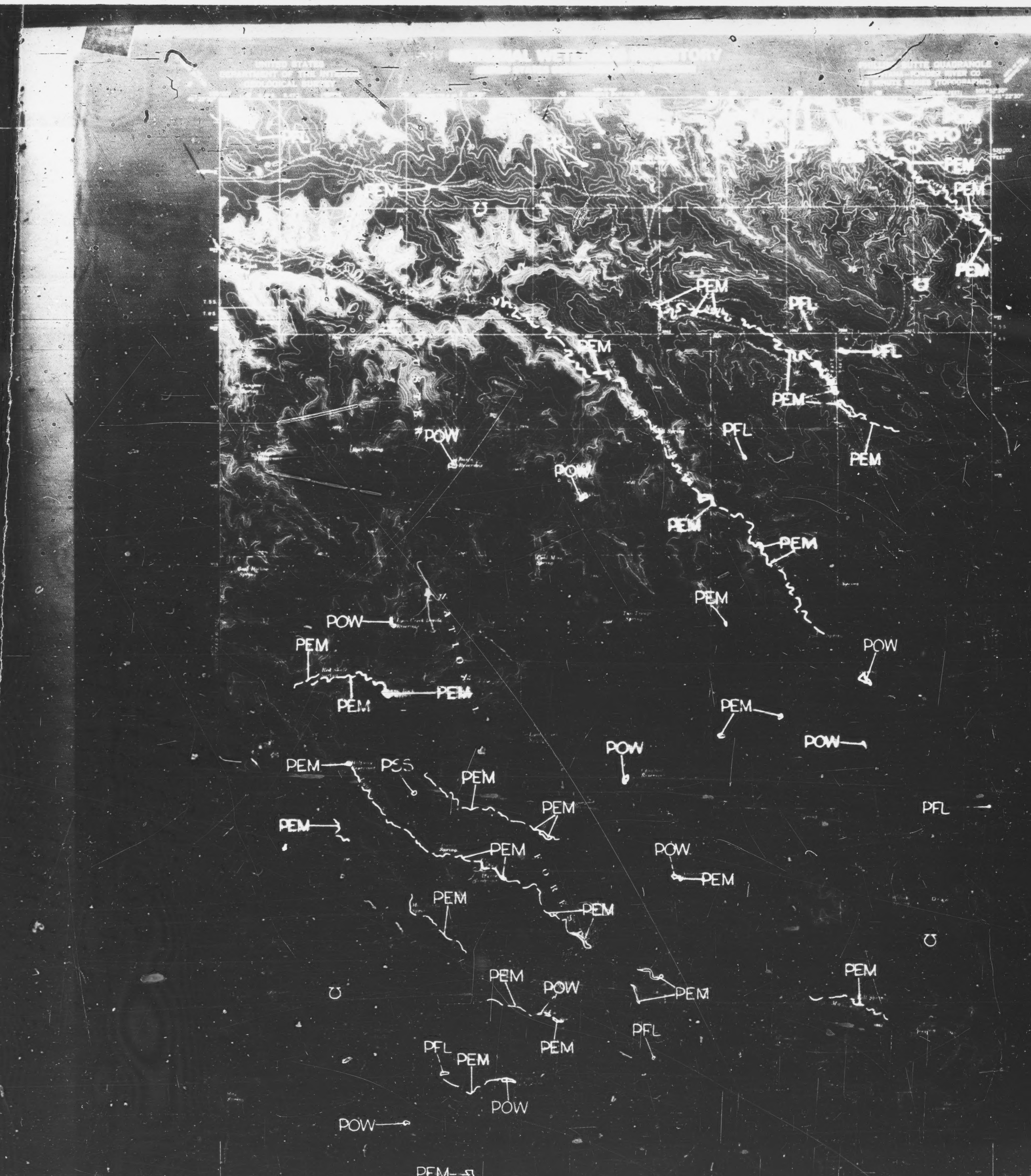
WETLAND LEGEND

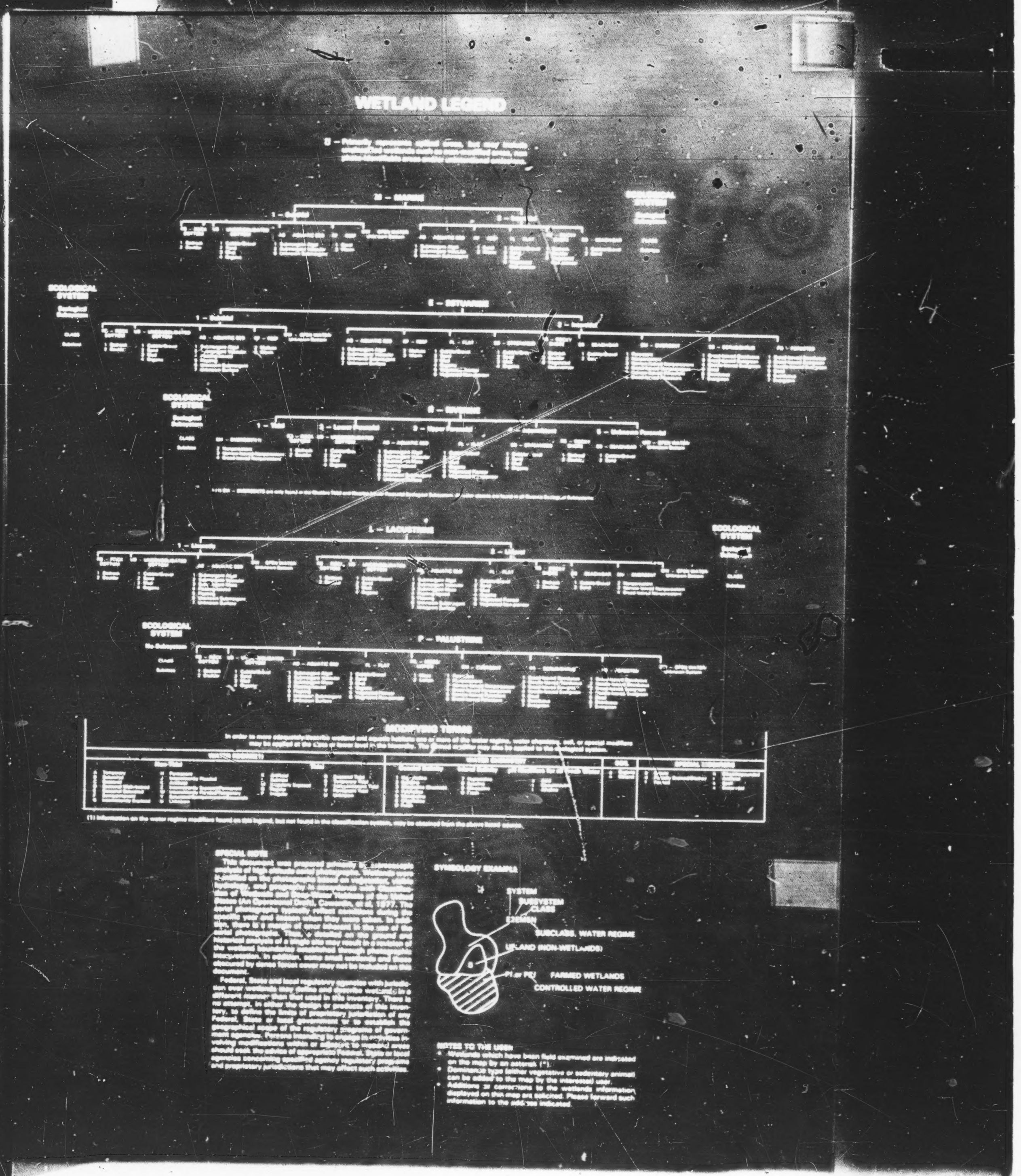




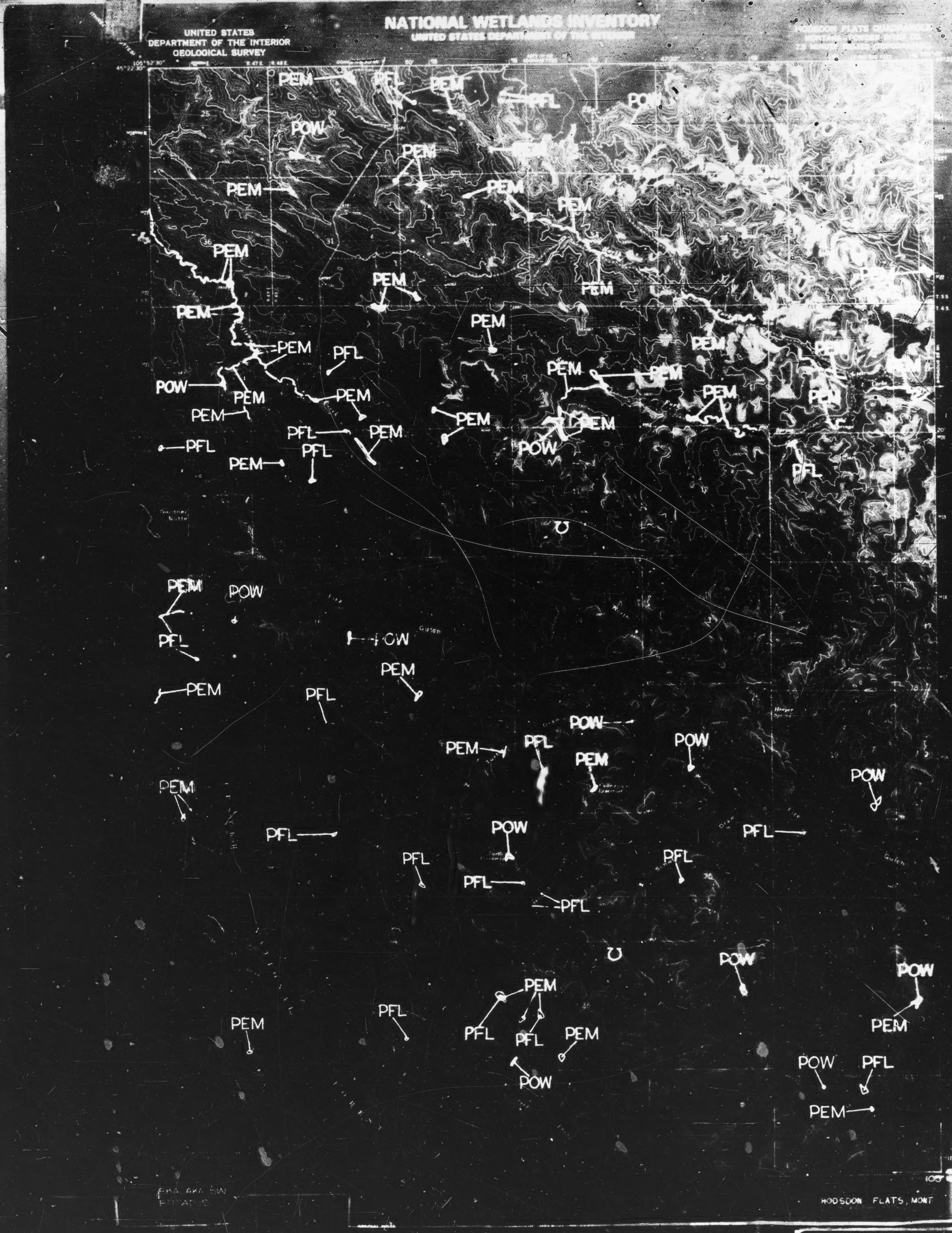
C

3 7 9 4 4 6


PEM
POW
PFL
PSS
MICROFICHE INDEX
BROADUS (EKALAKA SW)
NW
NC
EAST
SW
SC


WETLAND LEGEND
SPECIAL NOTE
SYMBOLOGY EXAMPLE
SYSTEM
SUBSYSTEM
CLASS
SUBCLASS, WATER REGIME
UPLAND (NON-WETLANDS)
FARMED WETLANDS
CONTROLLED WATER REGIME
NOTES TO THE USER:

3 7 9 4 4 7



MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

WETLAND LEGEND

MODIFYING TERMS

SPECIAL NOTE

[illegible]

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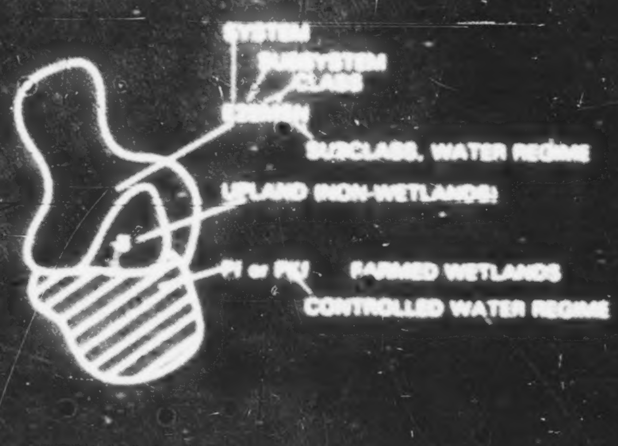
SYMBOLOGY EXAMPLE



NOTES TO THE USER

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NATIONAL WETLANDS INVENTORY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PEM PFL POW PSS PFO

Castle Rock

Rattlesnake Butte

EKALAKA SW
BROADUS

SPECIAL NOTE

NOTES TO THE USER

MICROFICHE INDEX
BROADUS (EKALAKA SW)

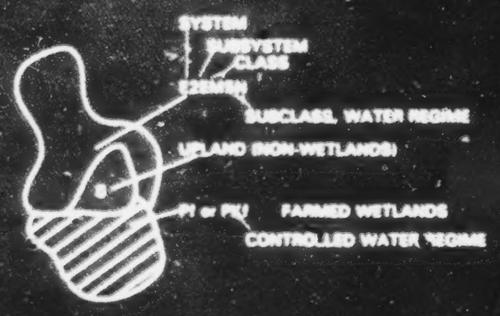
NW	NC	EAST
SW	SC	

WETLAND LEGEND

MODIFYING TERMS

SPECIAL NOTE

HYDROLOGY EXAMPLE



NOTES TO THE USER

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3 7 9 4 5 3

NATIONAL WETLANDS INVENTORY

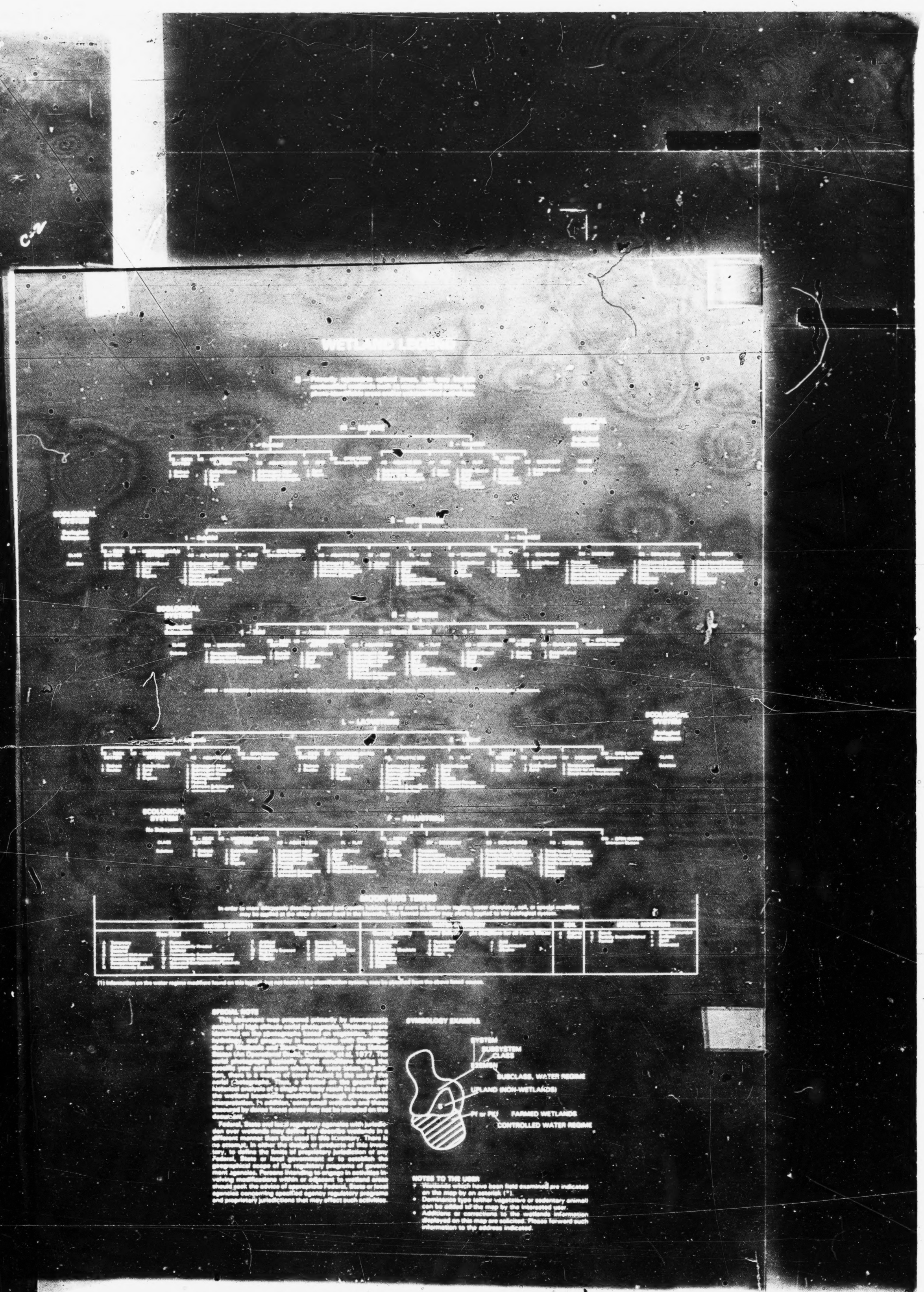
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BROADUS QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

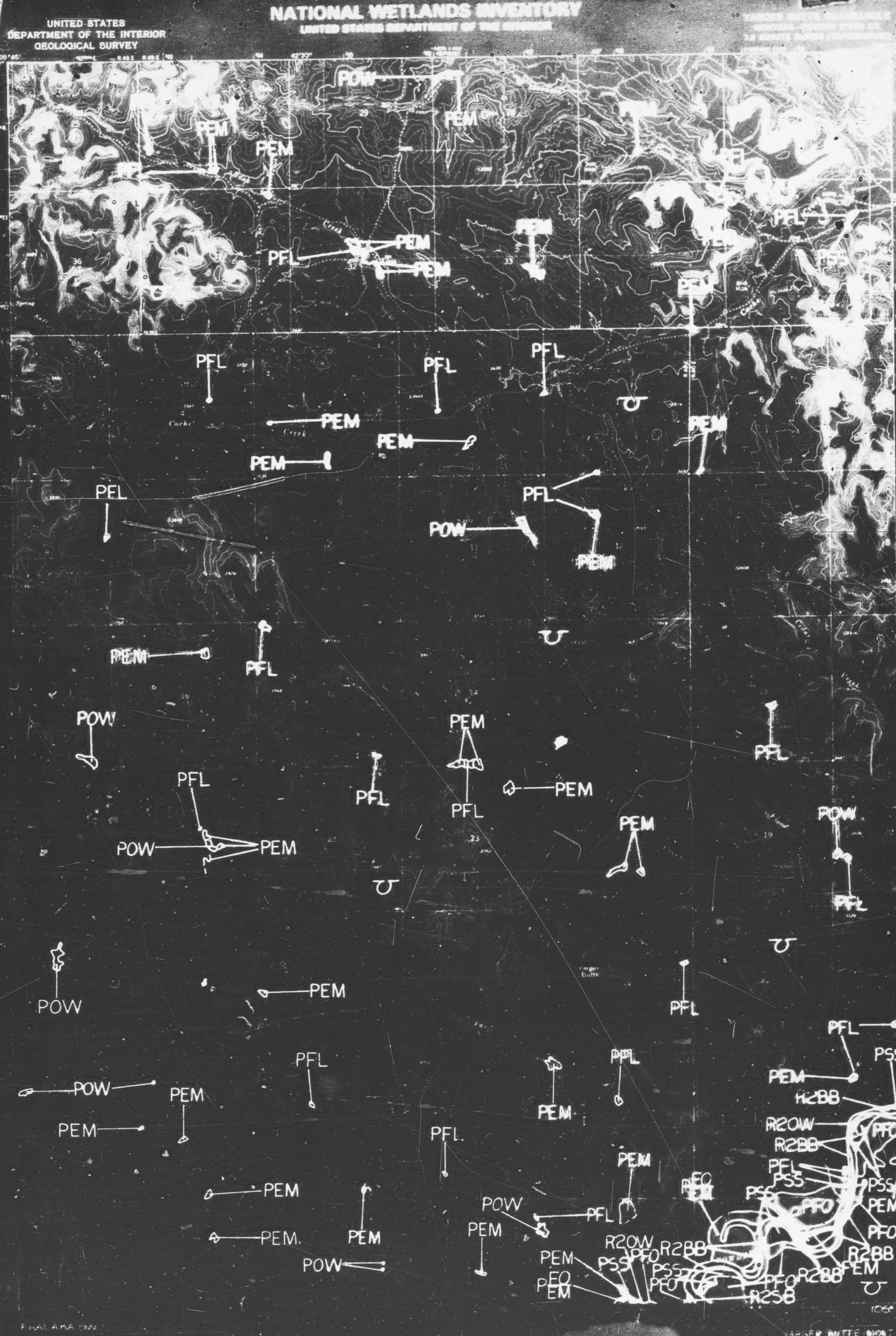
PEM
POW
PEM
PPL
PEM
PEM
PPL
PSS
PFL
PEM
PFL
PEM
PFL
PEM
PEM
PEM
PEM
PEM
PEM
POW
PFL
PFL
PEM
PFL
POW
PEM
PEM
PEM
PEM
PEM
PFL
PFL
PSS
R2BB
PEM
PFO
PSS
R2BB
R2BB
PFO
R2SB
PSS
PFL
PSS
PEM
R2BB
PFO
PFO
R2BB
PSS
PEM
R2BB
PFO
R2OW
R2BB
PEM
PFO
PSS
PEM
R2BB
PFO
R2SB
PEM
PEM
PFL
PSS
R2BB
PFO
PEM
R2SB
PEM
PFL
R2BB
PEM
PSS
PFL
R2OW
PFO
R2BB
PEM
PFL
PSS
PEM
R2BB
R2BB
PEM
R2BB
PEM
R2BB
R2SB
PSS
R2BB
PFL
R2BB
R2OW
PSS
R2BB
POW
R2SB
R2OW
R2BB
PSS
PFO
POW
PFL
PEM

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	


WETLAND LEGEND
ECOLOGICAL SYSTEM
P = PALUSTRINE
ECOLOGICAL TERMS
SPECIAL NOTE
HYDROLOGY EXAMPLE
SYSTEM
SUBSYSTEM
CLASS
SUBCLASS, WATER REGIME
UPLAND (NON-WETLANDS)
FARMED WETLANDS
CONTROLLED WATER REGIME
NOTES TO THE USER

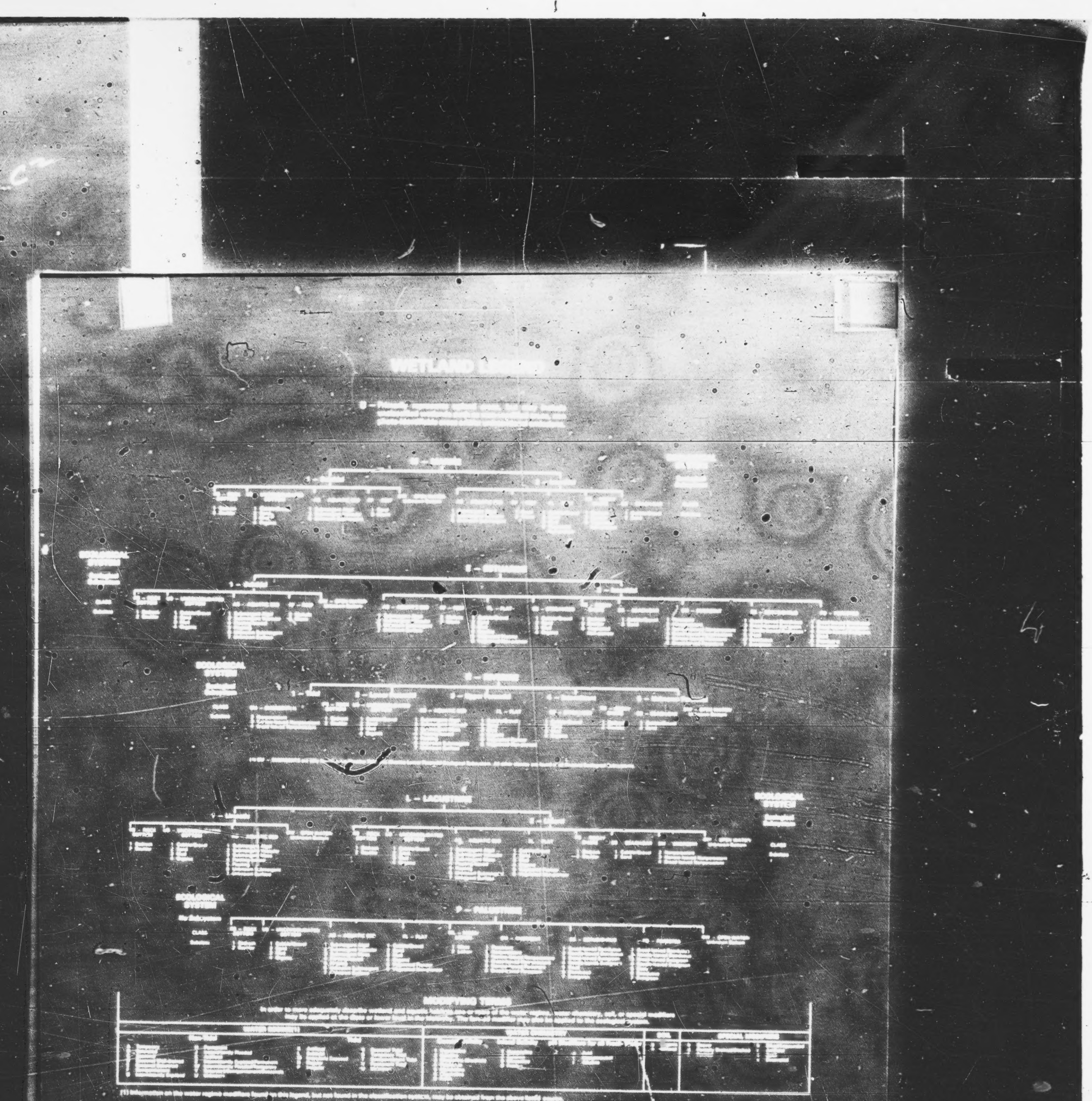
3709 4554



MICROFICHE INDEX

BROADUS (EKALAKA-SW)

NW	NC	
		EAST
SW	SC	


WETLAND
SPECIAL NOTE
HYDROLOGY EXAMPLE
SYSTEM
SUBSYSTEM
CLASS
SUBCLASS, WATER REGIME
UPLAND (NON-WETLANDS)
FARMED WETLANDS
CONTROLLED WATER REGIME
NOTES TO THE USER

3 7 9 4 5 5

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LONESOME PEAK QUADRANGLE
MONTANA--POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

105°37'30"
45°22'30"

PEM
PFO
PSS
POW
R2BB
R2OW
PFL
PUB
R2SB

SPECIAL NOTE

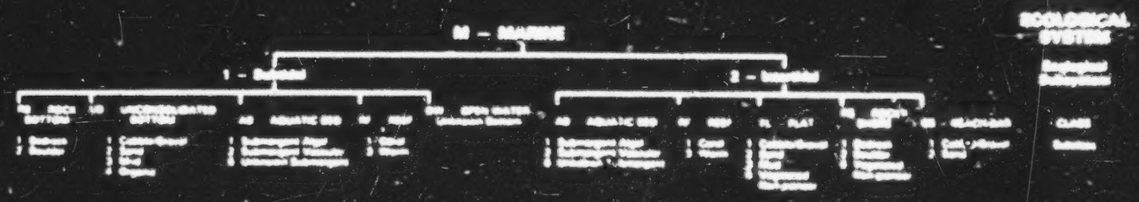
MICROFICHE INDEX
BROADUS (EKALAKA SW)

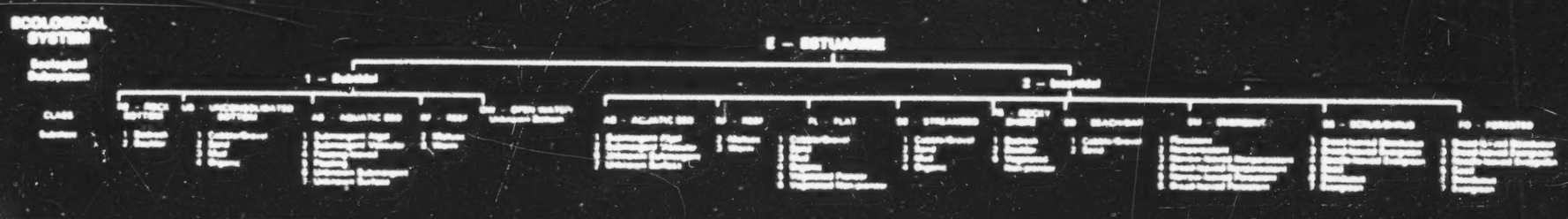
NW	NC	NE
SW	SC	SE

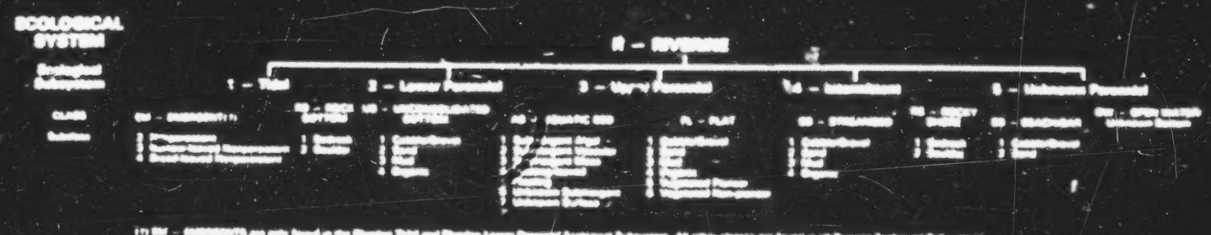
C-2

WETLAND LEGEND

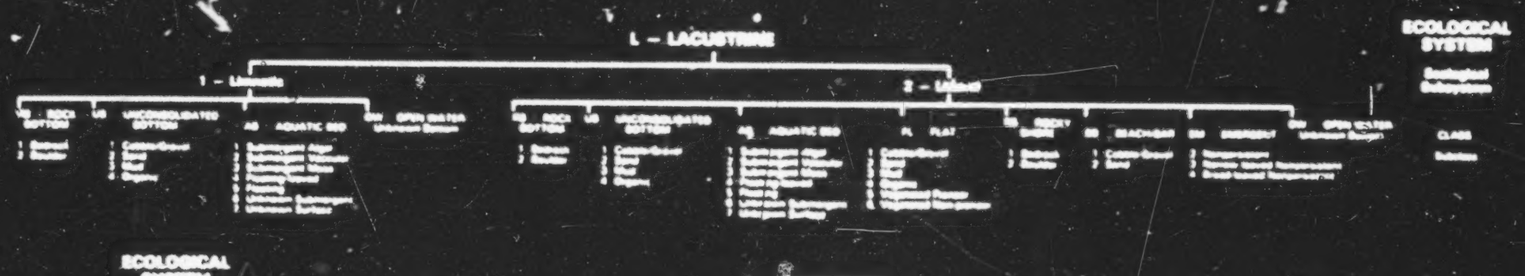
B – Primarily represents upland areas, but may include
undrained wetlands such as man-modified areas, non
photo-identifiable areas and/or unimportant inclusions.

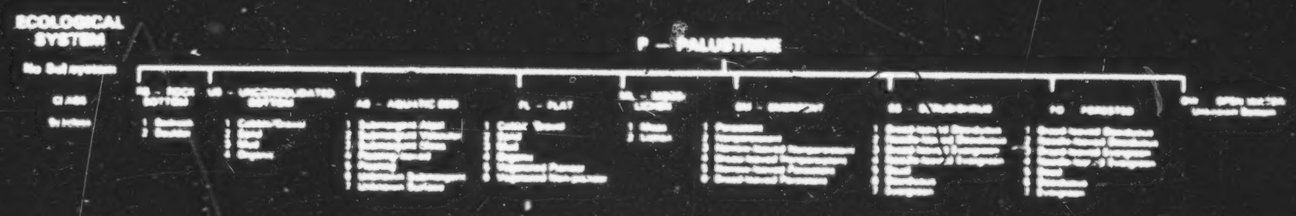






(1) Rock – BEDROCK are only found in the Riverine Tidal and Riverine Lower Perennial Ecological Subsystem. All other classes are found in all Riverine Ecological Subsystems.





MODIFYING TERMS

In order to more adequately describe wetland and aquatic habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The former modifier may also be applied to the ecological system.

WATER REGIME (1)				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS	
Non-Tidal		Tidal		Salinity (‰)	Water Body	pH Modifiers for all Water Regimes			
Permanently Flooded	Intermittently Exposed	Permanently Flooded	Intermittently Exposed	Hyperhaline	Eutrophic	Hyperhaline	Organic	Beaver	Partially Drained/Ditched
Intermittently Flooded	Semipermanently Flooded	Regularly Flooded	Irregularly Flooded	Euhaline	Dystrophic	Euhaline	Mineral	Farmed	Diked/Impounded
Artificially Flooded	Seasonally Flooded			Mixohaline (Brackish)		Mixohaline (Brackish)			
	Saturated			Polyhaline		Polyhaline			
	Artificially Flooded			Mesohaline		Mesohaline			
				Oligohaline		Oligohaline			
				Fresh		Fresh			

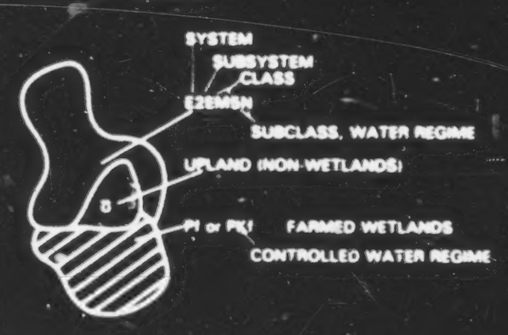
(1) Information on the water regime modifiers found on this legend, but not found in the classification system, may be obtained from the above listed source.

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deepwater Habitats of the United States (An Operational Draft), Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

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- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated

3794458

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ELDON MOUNTAIN QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

R2BB
R2OW
PSS
R2SB
PFO
PEM
PFL
POW

EKALAKA SW
BROADUS

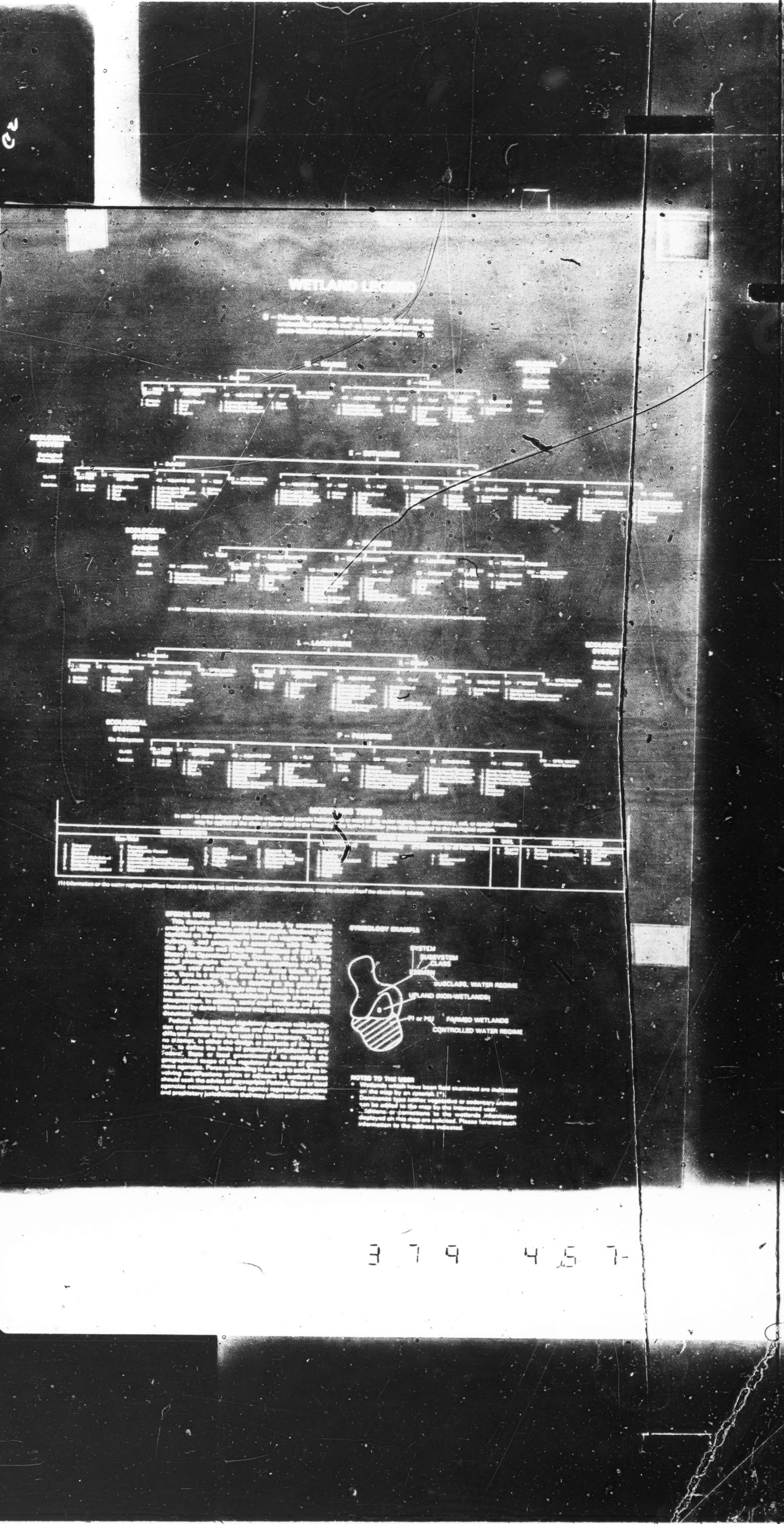
SPECIAL NOTE:

SYMBOLOGY EXAMPLE

NOTES TO THE USER

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	NE
SW	SC	SE


WETLAND LEGEND
ECOLOGICAL
ECOLOGICAL
TYPOLOGY DIAGRAM
DITCH
RIVER/STREAM
SWAMP
MARSH
SHELLFISH, WATER REGIME
UPLAND (NON-WETLANDS)
FARMED WETLANDS
CONTROLLED WATER REGIME
NOTES TO THE USER

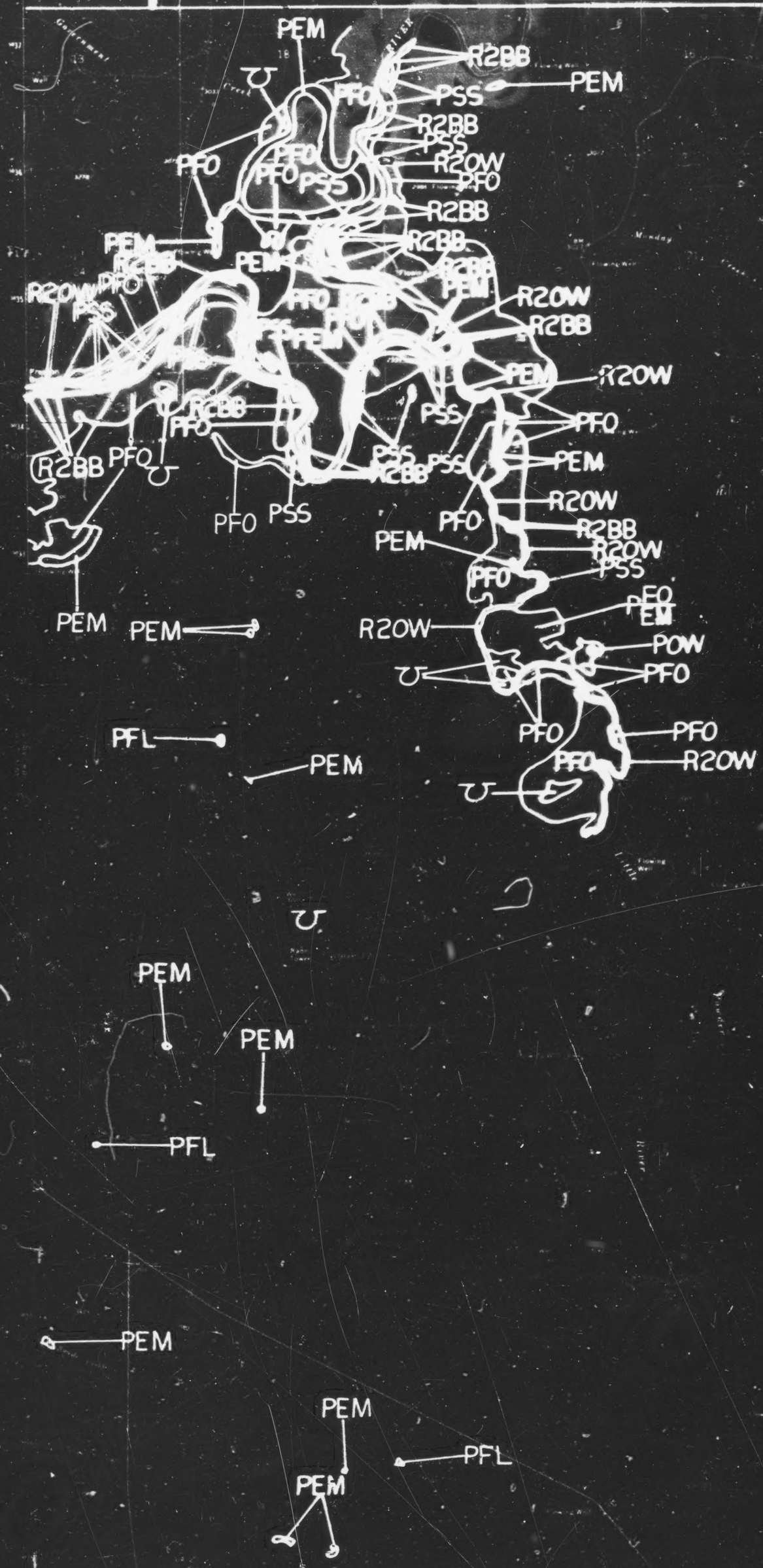
379 457

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MONDAY CREEK QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



EKALAKA SW
BROADUS

SPECIAL NOTE

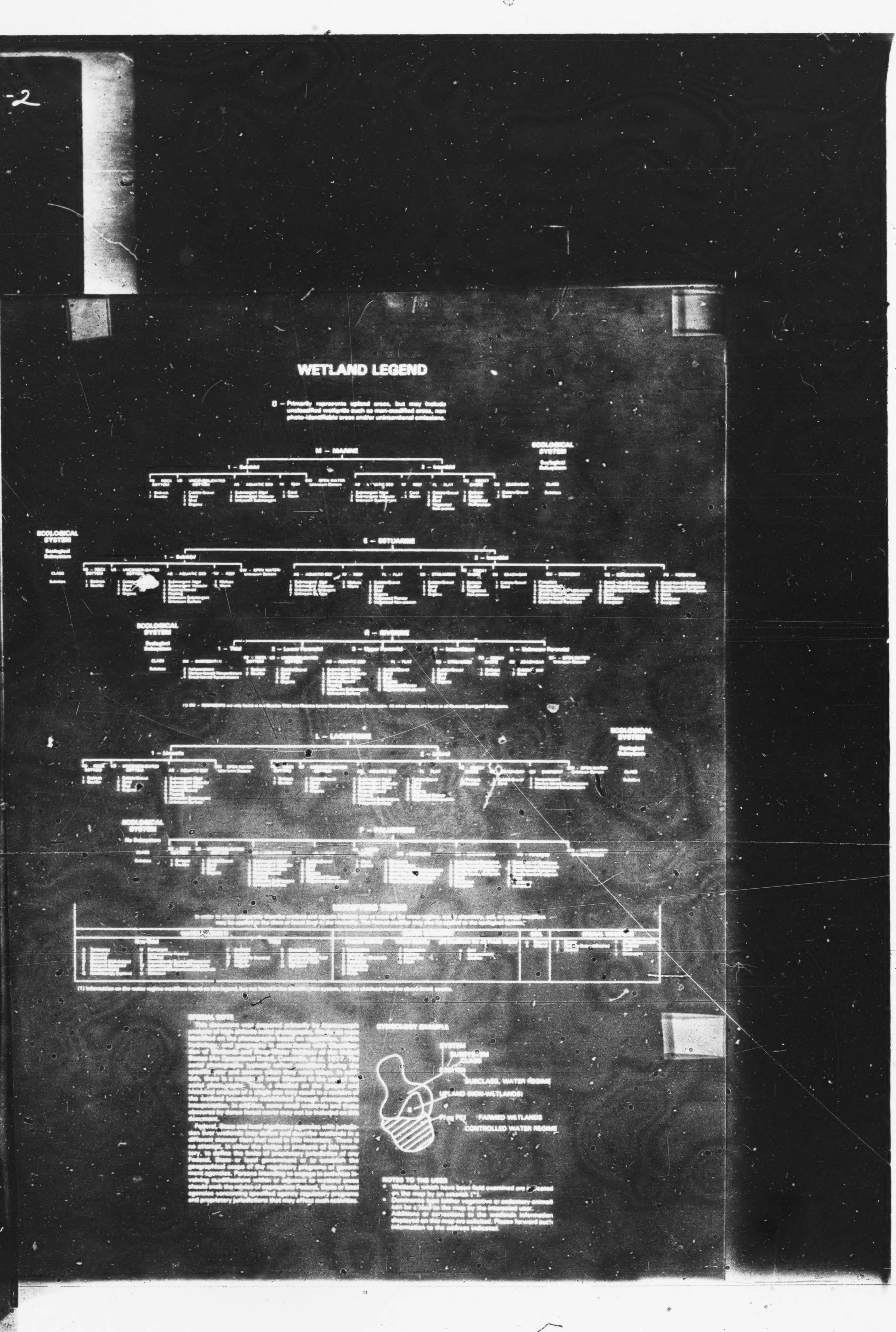
MONDAY CREEK, MONT

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

-2

WETLAND LEGEND



3 7 9 4.6.4

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FIGHTING BUTTE QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

POW
R20W
PFL
PEM
POW
PFL
PEM
POW
PEM
PEM
PEM
PEM
PEM
PEM
PFL
POW
PEM
PFL
PEM
PEM
PSS
PEM
PEM
PEM
R20W
PEM
PFL
PFL
POW
PFL

EKALAKA SW
BROADUS

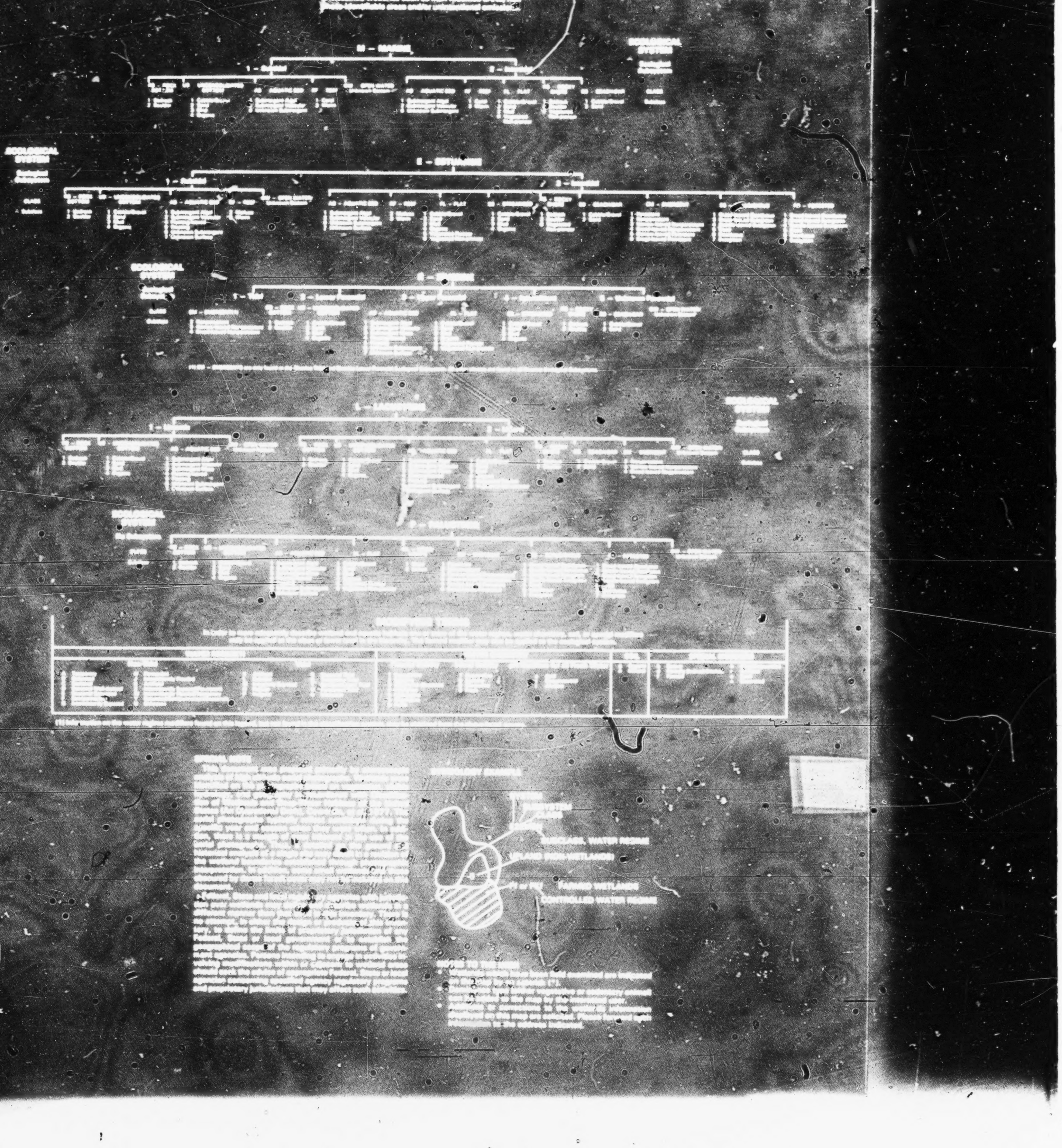
ROAD CLASSIFICATION

FIGHTING BUTTE, MONT.

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW | NC | EAST
SW | SC

WETLAND LEGEND



3 7 9 4 6 5

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PINE CREEK QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

105° 22' 30" — 45° 15'

105° 15' — 45° 15'

PEM POW PFL PSS PFO R20W

Allison
Drill Hole
Flowing
Powder
Spring
Rocky Butte
Preacher
Bell Tower
Gulch
Creek
Pine

SPECIAL NOTE

EKALAKA SW
BROADUS

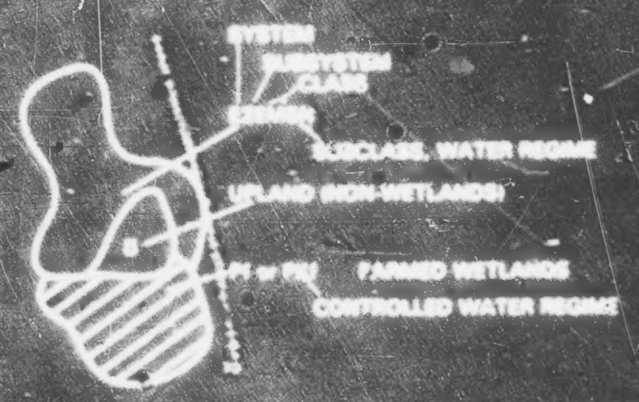
MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	NE
SW	SC	SE

PINE CREEK, MONT.

WETLAND LEGEND

M – MARINE



NOTES TO THE USER

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PINE CREEK QUADRANGLE
MONTANA—POWDER RIVER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

PEM
POW
PFL
PSS
PFO
R2OW

SPECIAL NOTE

NOTES TO THE USER

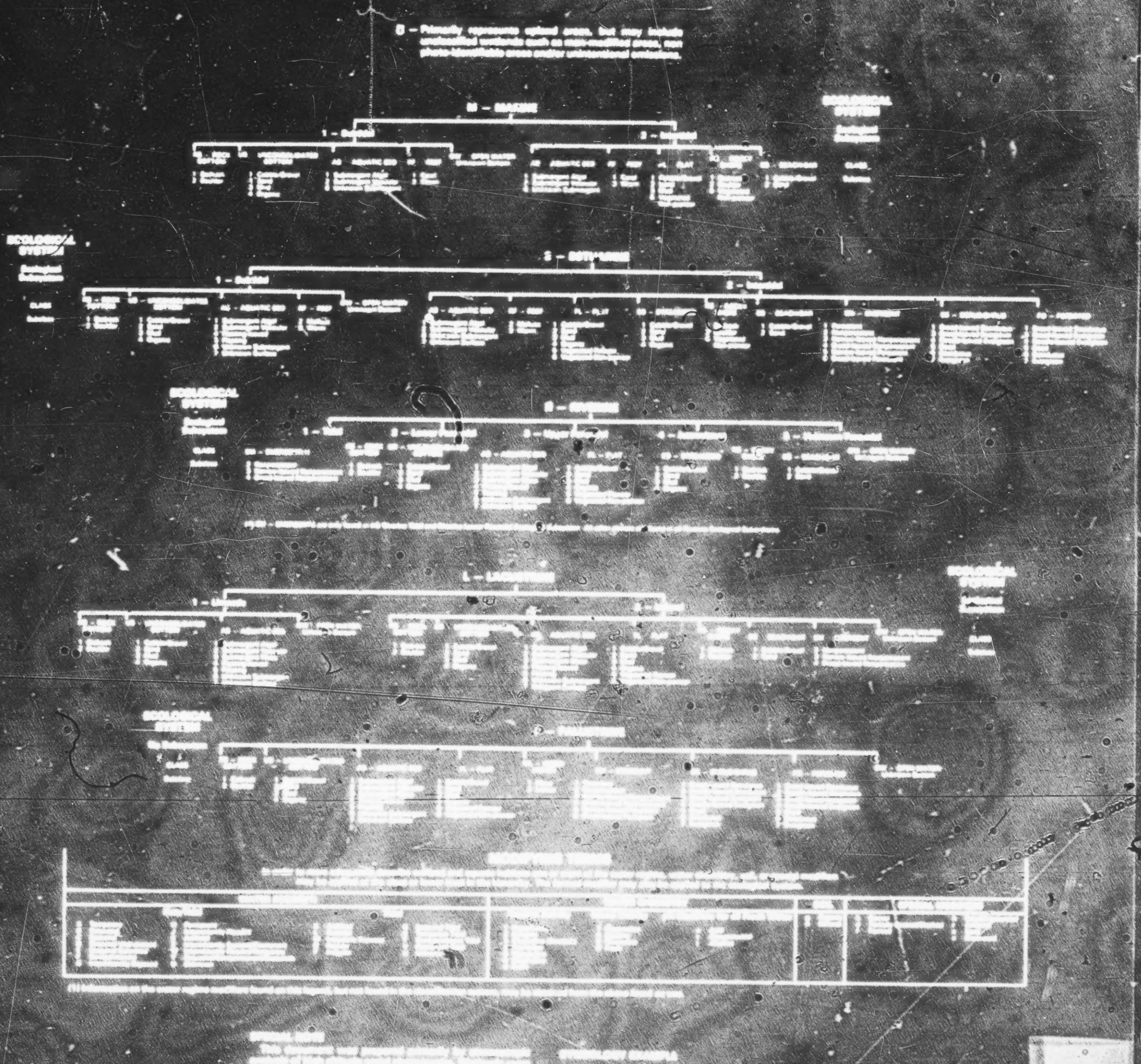
MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	NE
SW	SC	SE

PINE CREEK, MONT.

C-2

WETLAND LEGEND



3 7 9 4 6 7

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BIDDLE QUADRANGLE
MONTANA—WYOMING
7.5 MINUTE SERIES (TOPOGRAPHIC)

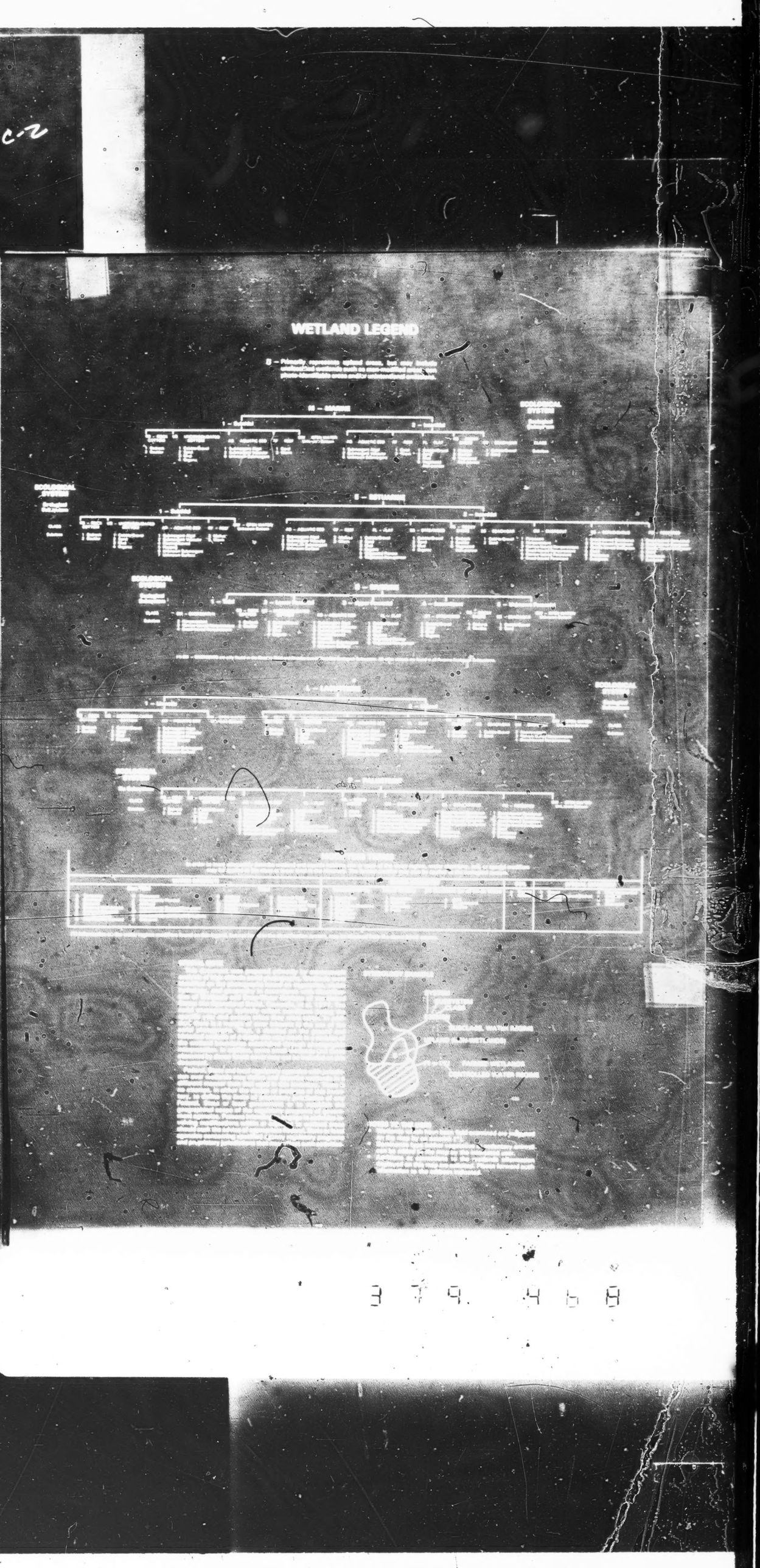
MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

BIDDLE, MONT.-WYO.

C-2

WETLAND LEGEND



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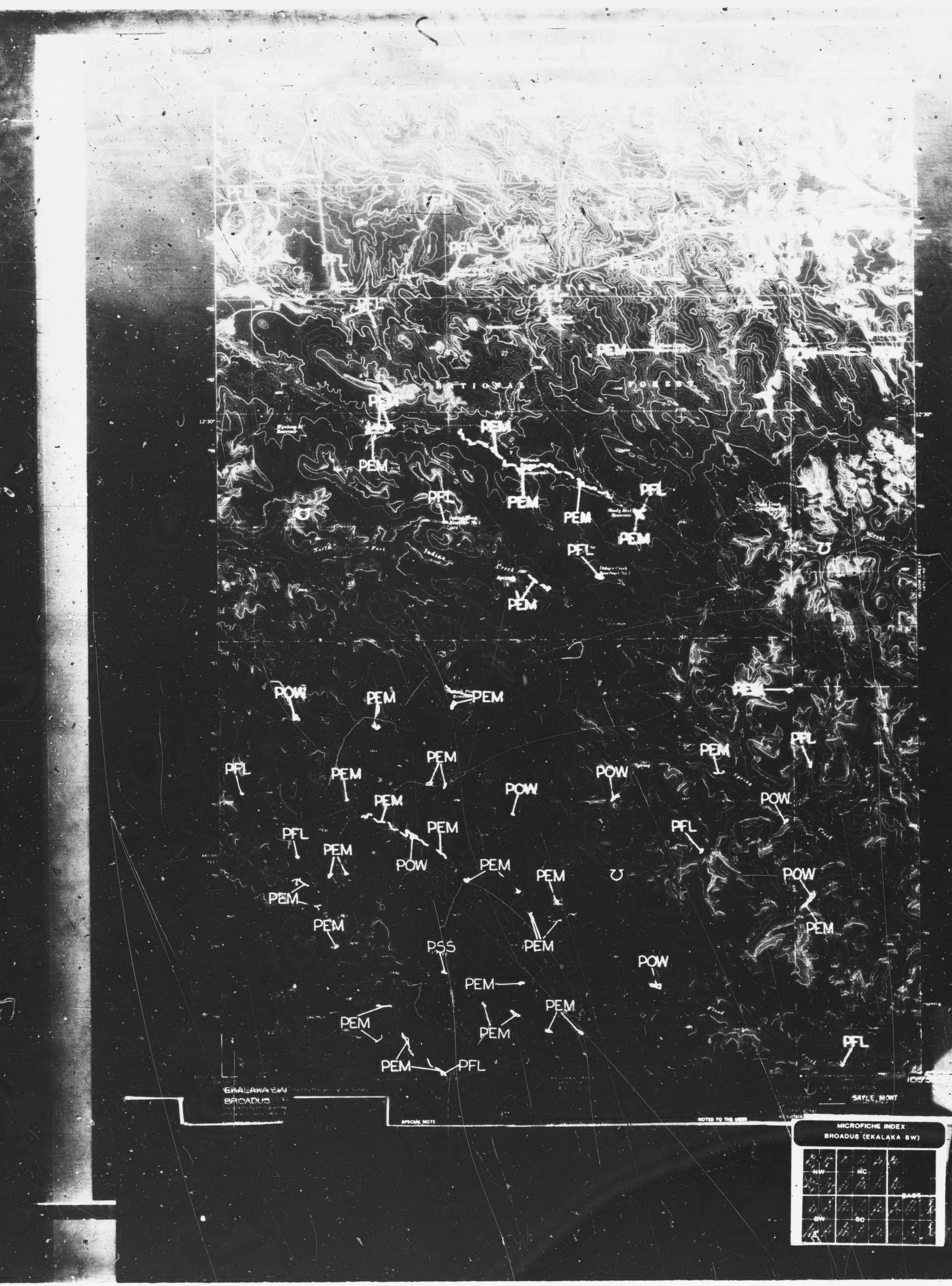
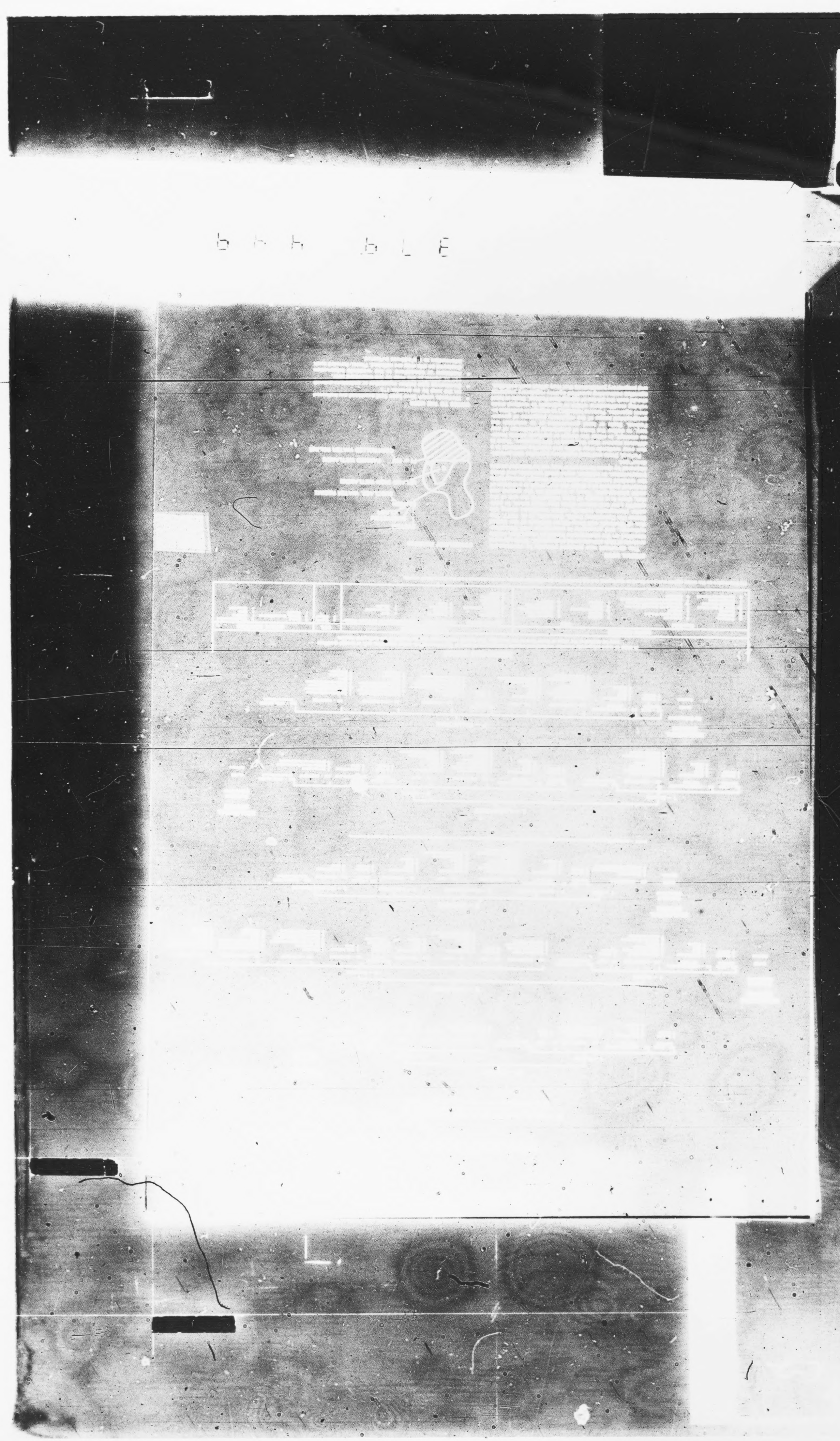
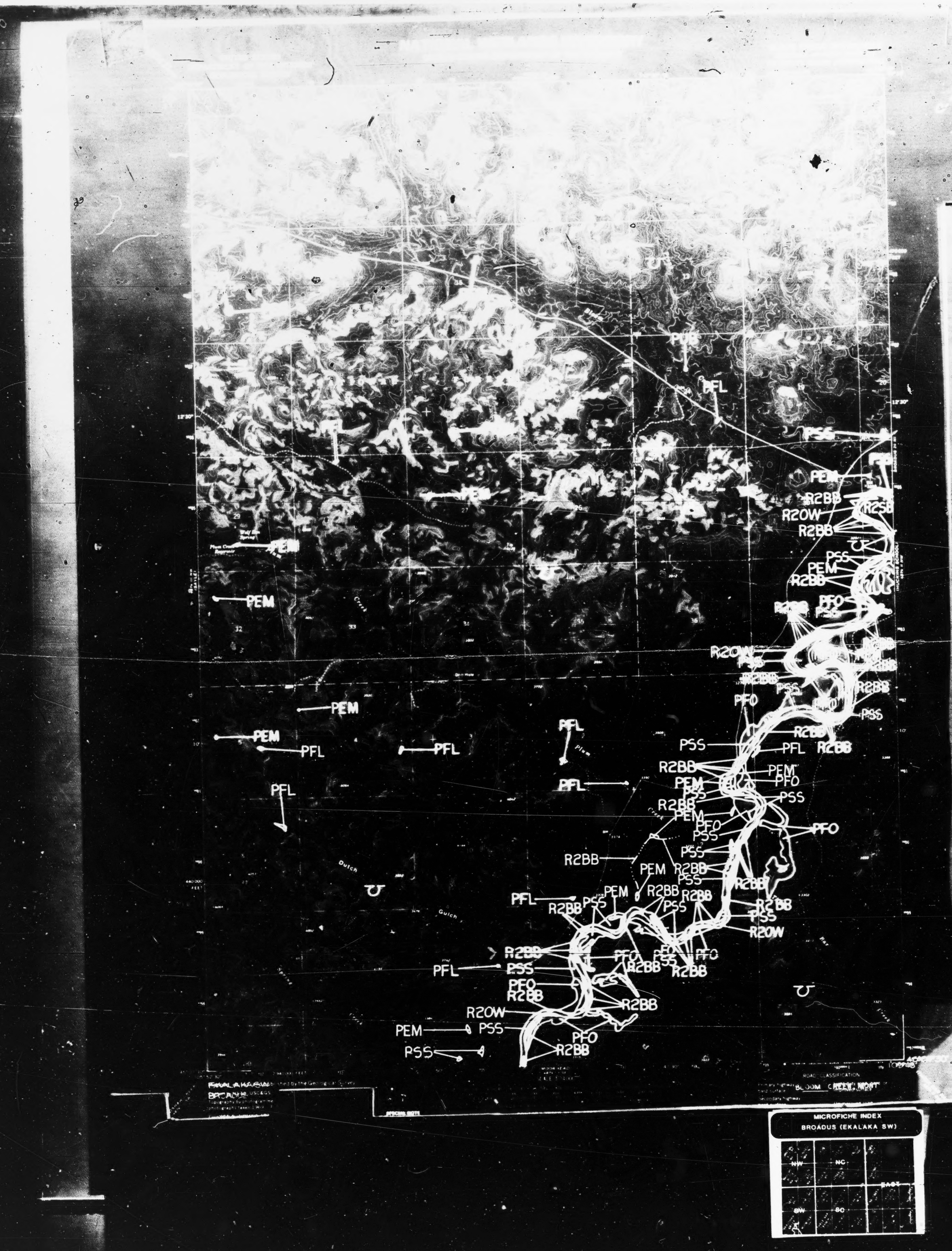
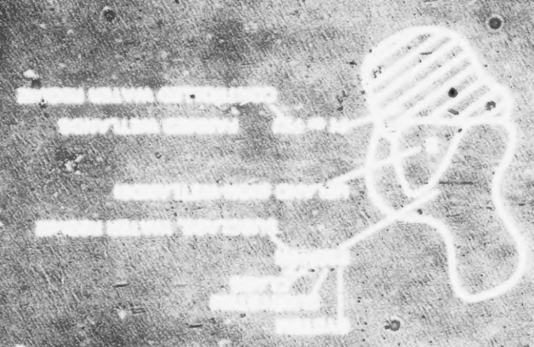
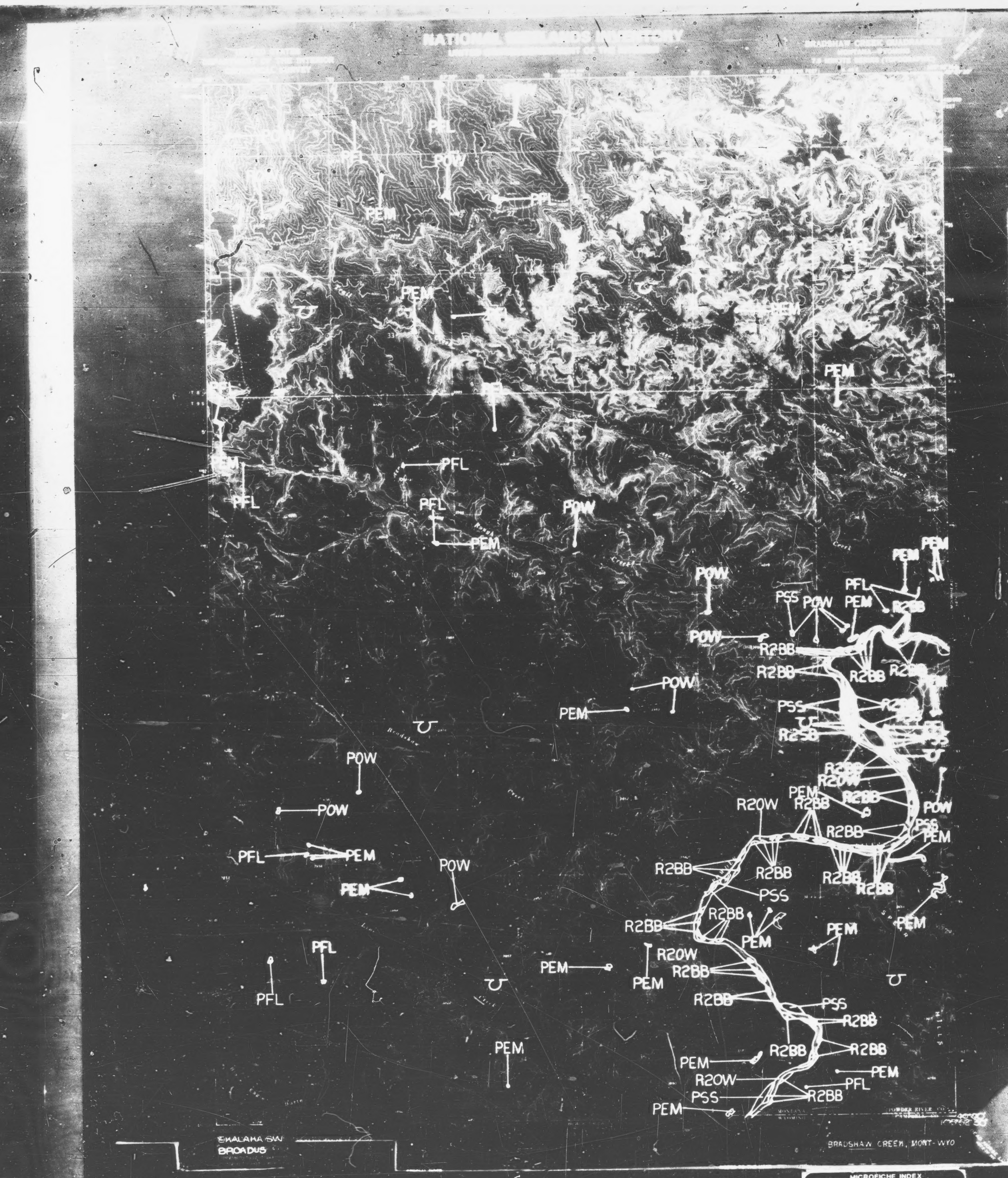

PEM
PFL
POW
PSS
EKALAKA SW
BROADUS
SPECIAL NOTE
NOTES TO THE USER
SAYLE, MONT
MICROFICHE INDEX
BROADUS (EKALAKA SW)
NW
NC
NE
SW
SC
SE




PEM
PFL
PSS
R2BB
R20W
PFO
Dutch Gulch
Creek
ROAD CLASSIFICATION
MICROFICHE INDEX
BROADUS (EKALAKA SW)
NW
NC
EAST
SW
SC




PEM
PFL
POW
R2BB
PSS
R20W
EKALAKA SW
BROADUS
BRADSHAW CREEK, MONT-WYO
MICROFICHE INDEX
BROADUS (EKALAKA SW)
NW
NC
EAST
SW
SC

3794451

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NATIONAL WETLANDS INVENTORY

UNITED STATES

PSS R2BB PFO PEM PSS PFO PSS PFO R2BB PEM PFO PEM PSS PFO PEM PSS R2BB PFO PSS PEM PFO R2BB PEM PSS PFO PEM R2BB PSS PFO POW PSS R2BB PSS R2BB PFL PEM PEM PEM PEM PEM PFL PEM PEM PFL PEM POW PEM PEM PFL POW PEM PEM PEM PEM PEM PEM POW PEM PEM PEM PFL PEM PEM POW PEM PEM PEM POW PEM PEM PEM PFL PEM POW PEM

MONTANA
WYOMING

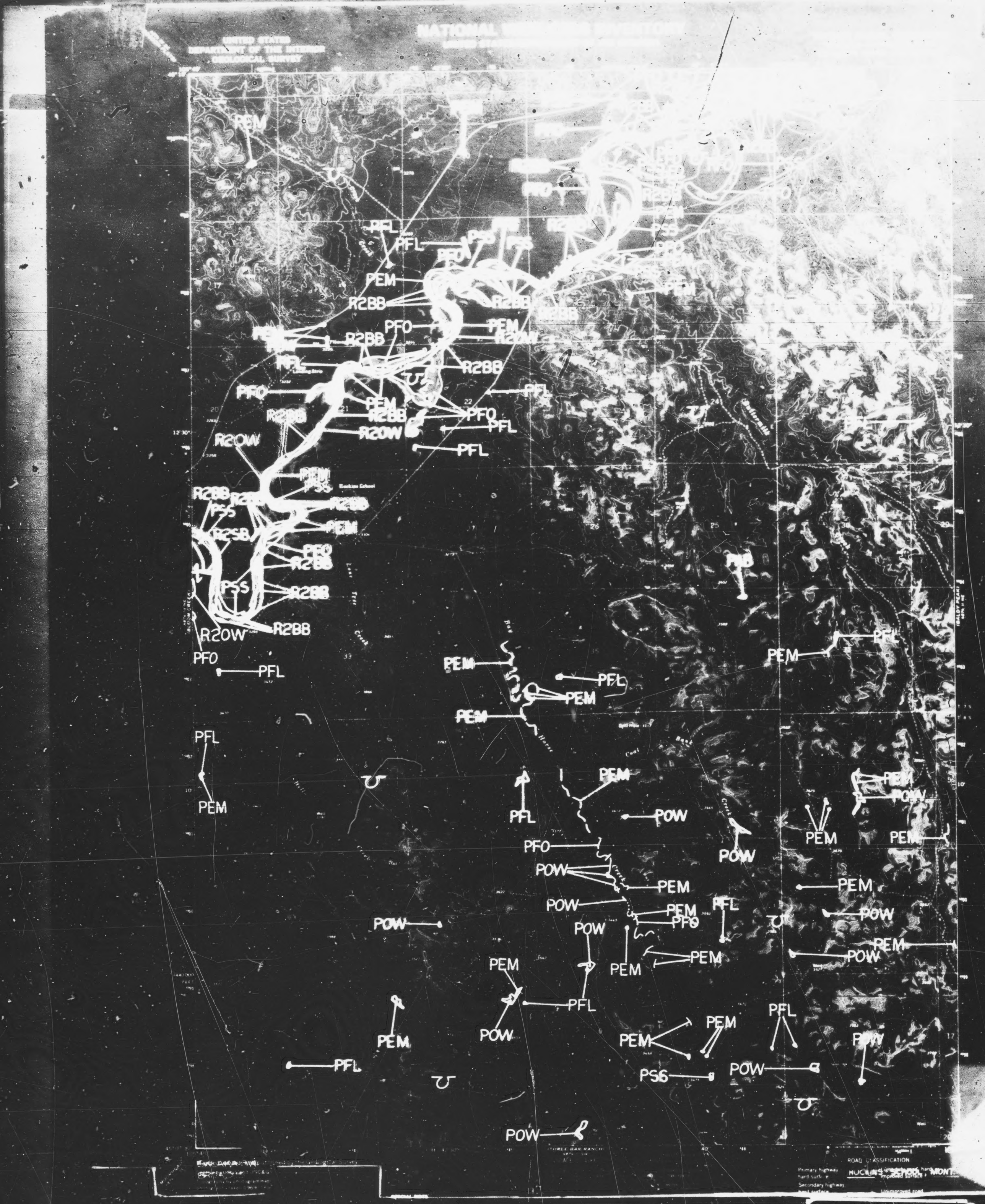
EKALAKA SW

MOORHEAD, MONT-WYO

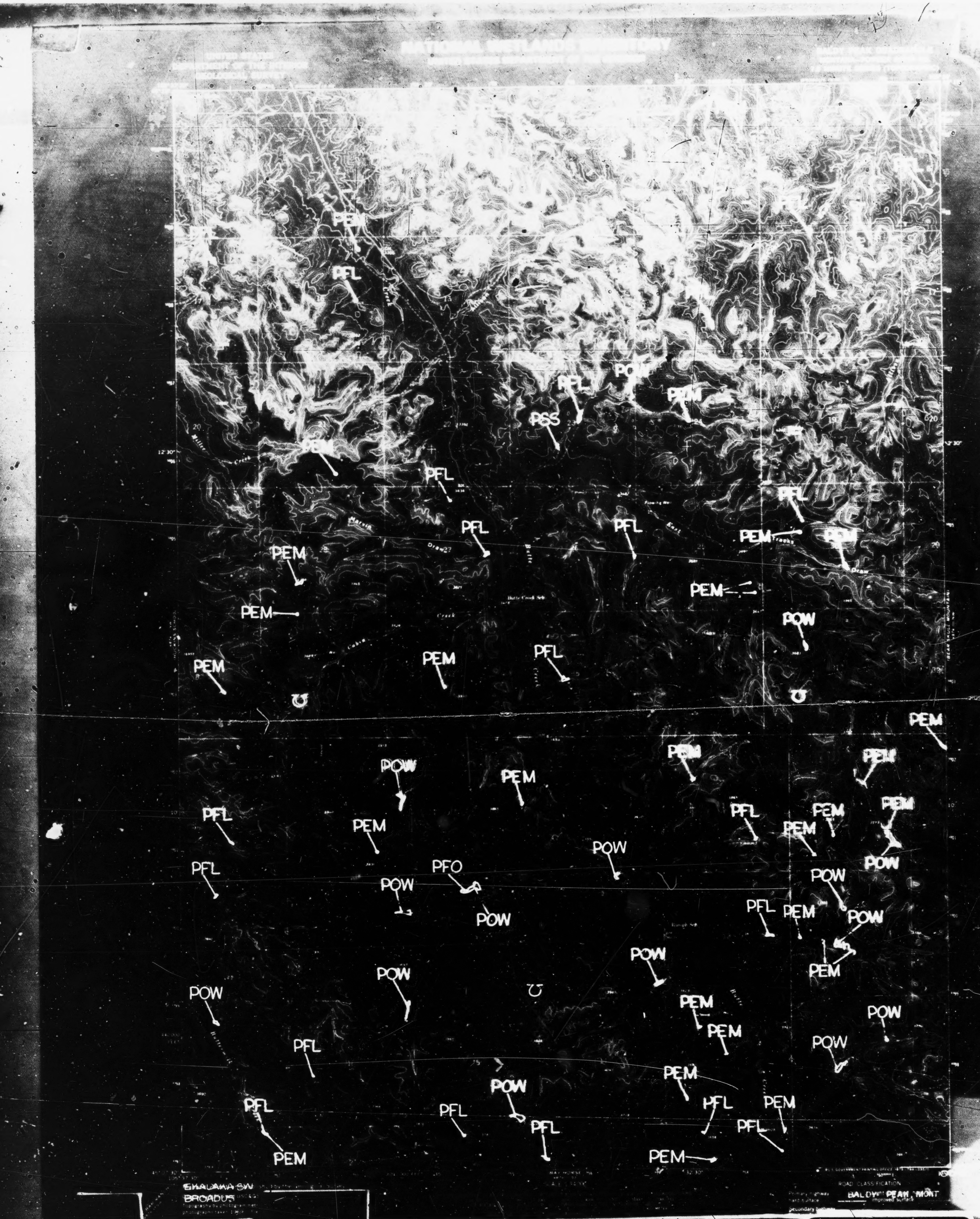
MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW	NC	EAST
SW	SC	

3 7 9 4 5 2


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
NATIONAL
PEM
PFL
PFO
R2BB
R2OW
PSS
POW
ROAD CLASSIFICATION
Primary highway
hard surface
Secondary highway
hard surface
Unimproved road
MICROFICHE INDEX
BROADUS (EKALAKA SW)
NW
NC
SW
SC

8 5 h 6 L E

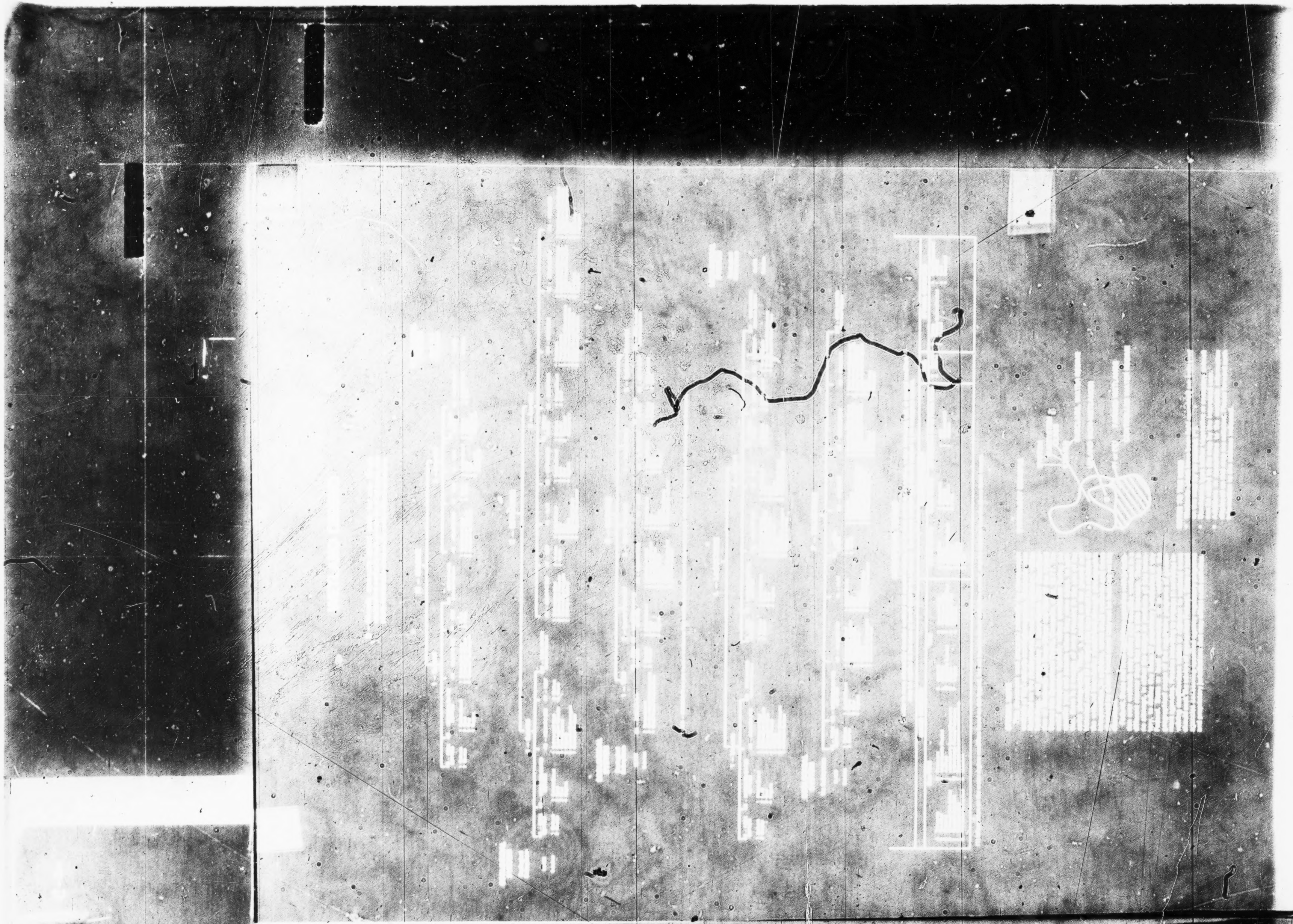


EKALAKA SW
BROADUS

ROAD CLASSIFICATION

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW
NC
SW
SC



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NATIONAL WETLANDS INVENTORY

EKALAKA SW
BROADUS

SPECIAL NOTE

NOTES TO THE USER

ROAD CLASSIFICATION

Primary highway, hard surface — Improved surface

Secondary highway, hard surface — Unimproved road

BEAR SKULL MOUNTAIN, MONT

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW NC

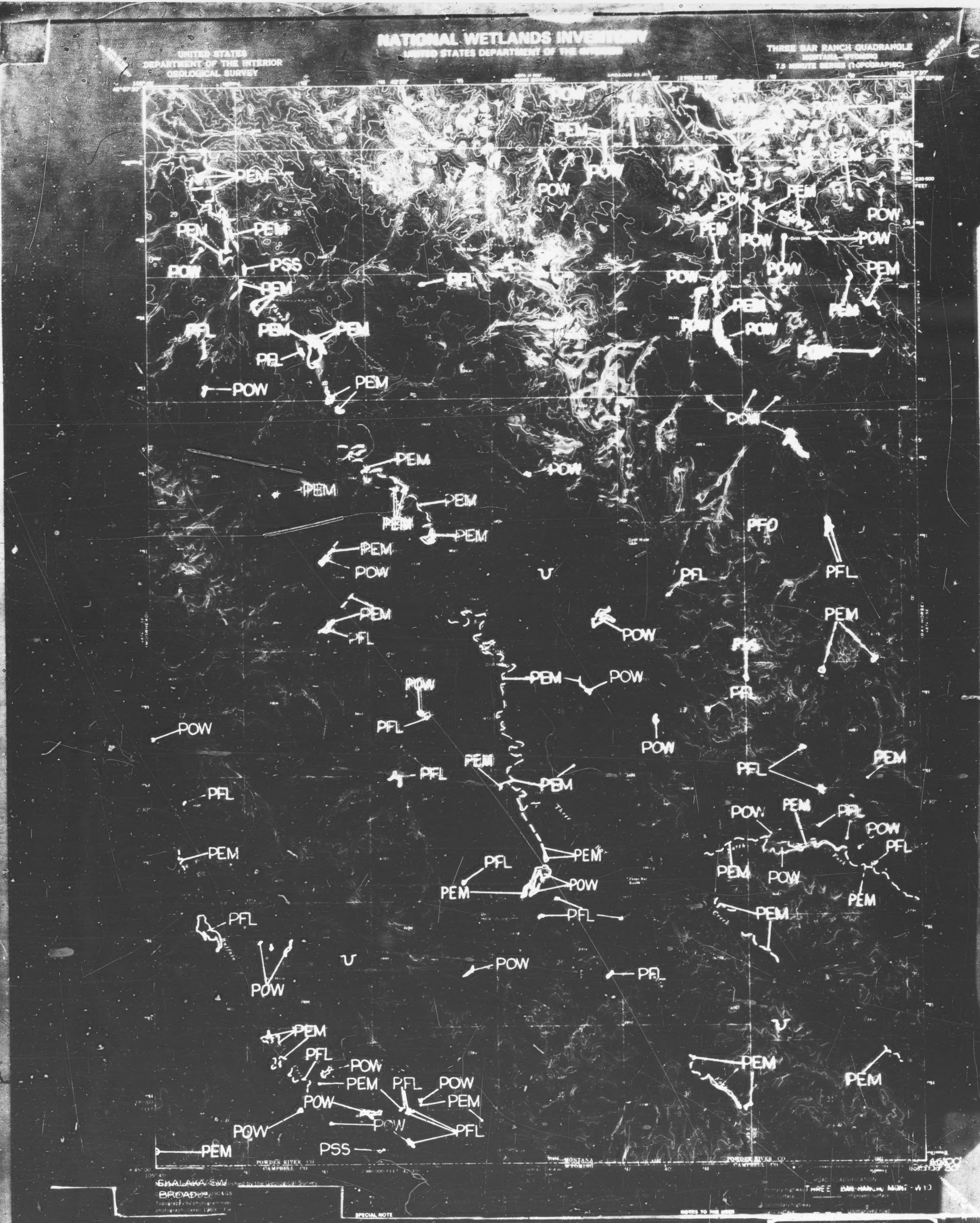
SW SC

3 7 9 4 6

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

THREE BAR RANCH QUADRANGLE
MONTANA—WYOMING
7.5 MINUTE SERIES (TOPOGRAPHIC)



TABLE

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

105° 37' 30"
45° 07' 30"

POW PEM PFL PFO

EKALAKA SW
BROADUS

POWDER RIVER CO
CAMPBELL CO
MONTANA
WYOMING
CAMPBELL CO
POWDER RIVER CO

SCALE 1:24 000

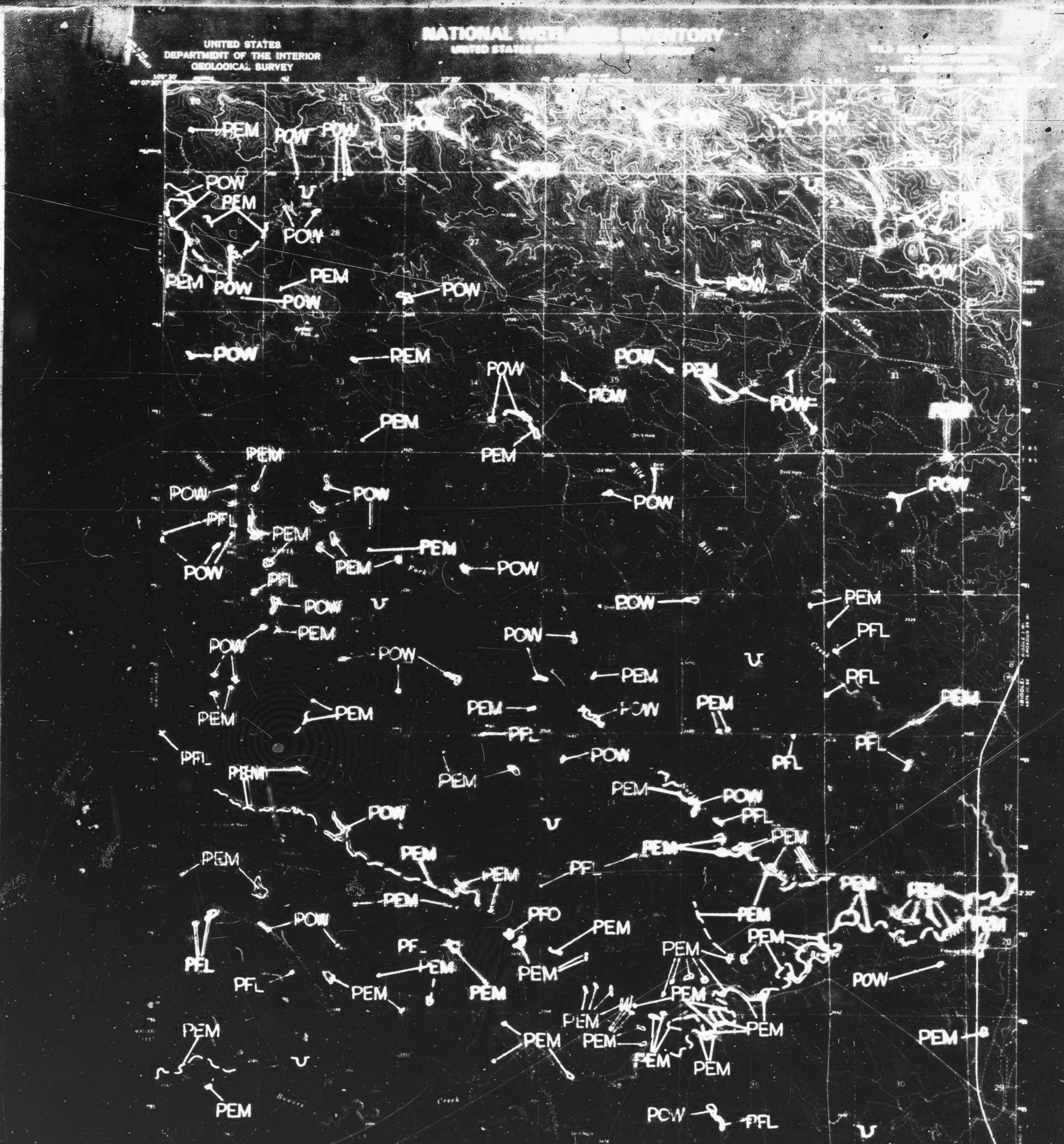
ROAD CLASSIFICATION

Primary highway hard surface
Secondary highway hard surface
Light duty road, hard or improved surface
Unimproved road

MICROFICHE INDEX
BROADUS (EKALAKA SW)

NW NC NE SW SC SE

3 7 9 4 6 2



MICROFICHE INDEX

BROADUS (EKALAKA SW)

379 463